

FM 10-602
HEADQUARTERS
DEPARTMENT OF THE ARMY

**HEADQUARTERS
AND
HEADQUARTERS
UNITS,
PETROLEUM
AND
WATER DISTRIBUTION
ORGANIZATION**

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Field Manual
No. 10-602

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 12 September 1996

Headquarters and Headquarters Units, Petroleum and Water Distribution Organization

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PREFACE

Purpose

This field manual provides general data and operational information for commanders and key personnel of the following units:

- Headquarters and Headquarters Company, Petroleum and Water Group — TOE 10602L0.
- Headquarters and Headquarters Company, Petroleum Pipeline and Terminal Operating Battalion — TOE 10416L0.
- Headquarters and Headquarters Company, Petroleum Supply Battalion — TOE 10426L0.
- Headquarters and Headquarters Company, Water Supply Battalion — TOE 10466L0.
- Headquarters Petroleum Liaison Team — TOE10560LM.

Scope

This field manual covers the headquarters and headquarters units of the petroleum and water organizations. It discusses their organization, employment, coordination with other units, field operations, and training.

User Information

Current references use some terms interchangeably. These terms include:

- Petroleum and Water Group — QM Group (Petroleum and Water)
- Pipeline and Terminal Battalion — QM Battalion (PO)
- Petroleum Supply Battalion — QM Battalion (PS)
- Petroleum Liaison Team — QM Petroleum Liaison Team
- Water Supply Battalion — QM Battalion (Water Supply)

The proponent of this publication is the US Army Combined Arms Support Command. Send comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to —

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Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

CHAPTER 1

ENVIRONMENTAL RESPONSIBILITIES OF PETROLEUM AND WATER UNITS

The Army will be a national leader in environmental and natural resource stewardship for present and future generations as an integral part of our mission.

General Gordon R. Sullivan

SCOPE OF ENVIRONMENTAL RESPONSIBILITY

We must take care of the environment (that is, practice environmental stewardship). The definition of stewardship is taking care of property while also caring about the rights of others. We must plan our operations without harming the environment. Good environmental stewardship lets leaders take care of soldiers and their families. It also saves resources vital to combat readiness.

The Army has the huge task of reducing the environmental impact on its installations and units throughout the United States and the world. Within CONUS, the Army owns 20 million acres of land (an area about half the size of Virginia). This shows the vastness of this task. Each area of our daily operation has some effect on the environment.

The Army is renewing its emphasis on taking care of the environment. Petroleum and water units by their nature have a huge impact on the environment. It is critical for the leaders and soldiers in these units to follow safe, legal environmental practices. By doing so, they protect their health and the health of those around them. They also prevent long term environmental damage that can lead to fines and other legal actions.

ENVIRONMENTAL STEWARDSHIP GOALS

The Army no longer just complies with laws, they want to be a leader in environmental protection. To do this, the Army has set goals for its leaders. These goals include —

- Make sure operations comply with standards. Do not receive a notice of violation or a fine for not following local, state, and federal environmental regulations.
- Clean up installations. Begin restoring all contaminated sites by 2000.
- Prevent future pollution. Reduce all hazardous waste and toxic releases.
- Integrate NEPA procedures into all operations.
- Protect natural and cultural resources.

ROLE OF ENVIRONMENTAL STEWARDSHIP IN LEADERSHIP

A leader who cares for the environment also cares for his people. He does this by reducing or eliminating undue health risks. He saves resources (soldiers or money) vital to his mission. He keeps training areas in excellent condition for training far into the future. He preserves cultural artifacts for study by future generations. Also, he teaches the basic moral duty of soldiers to protect and preserve the United States of America and its allies.

ENVIRONMENTAL RESPONSIBILITIES OF PERSONNEL

Personnel at all levels must protect our environment. This includes soldiers, NCOs, officers, and commanders.

Soldiers

These duties include —

- Follow installation environmental policies, unit SOPS, ARs, and environmental laws and regulations.
- Make sound decisions in everyday activities.
- Advise the chain of command on techniques to ensure environmental regulations are followed.
- Identify the environmental risks in individual and team tasks.
- Support the Army recycling program.
- Report HM and HW spills immediately.

NCOs

These responsibilities include —

- Always consider the environment in day-to-day decisions.
- Make sure soldiers know the Army's environmental ethic.
- Train soldiers to be good environmental stewards.
- Be committed to environmental protection.
- Identify environmental risk associated with tasks.
- Plan and conduct environmentally sustainable actions and training.
- Protect the environment during training and other activities.
- Analyze the influence of the environment on your mission.
- Integrate environmental considerations into unit activities.
- Train peers and soldiers to identify the environmental effects of plans, actions, and missions.
- Counsel soldiers on the importance of protecting the environment and the results of not complying with environmental laws.
- Incorporate environmental considerations in AARs.
- Support the Army recycling program.
- Report HM and HW spills immediately.

Officers

These duties include —

- Build an environmental ethic in soldiers.
- Train and counsel subordinate leaders on stewardship.

- Lead by example.
- Enforce compliance with laws and regulations.
- Always consider the environment in making day-to-day decisions.
- Make sure subordinates know the Army's environmental ethic.
- Train subordinates to be good environmental stewards.
- Commit subordinate leaders to protect the environment.
- Analyze the influence of the environment on the mission.
- Integrate environmental considerations into unit activities, to include identifying the environmental risks associated with unit tasks.

Unit Commander

The commander must build an environmental ethic in his soldiers. The commander sets the tone for environmental compliance. He is totally responsible for complying with all applicable environmental laws in the unit. Commanders train their subordinates on stewardship and counsel them on doing what is right. They must lead by example and enforce compliance with laws. Commanders should —

- Consider the environment in making daily decisions.
- Know about the NEPA, HM, HW, HAZCOM efforts, and spill contingencies.
- Commit subordinates to environmental protection.
- Make sure officers and NCOs know the environmental ethic and train them to be good environmental stewards.
- Counsel officers and NCOs on the importance of protecting the environment and the results of violating laws.
- Ensure officers and NCOs comply with requirements when reporting hazardous substance spills.
- Ensure environmental concerns are addressed throughout the training.
- Identify and assess the environmental consequences of proposed programs and activities.
- Plan and conduct training that complies with environmental laws—including marking areas as “off-limits” during training exercises.
- Discuss environmental concerns during briefings, meeting, and AARs.

- Establish and sustain unit environmental awareness training.
- Appoint an environmental compliance officer and a HW coordinator (the same person can serve both positions). These appointments ensure environmental compliance occurs at the unit level.
- Ensure the unit SOP covers environmental considerations, conservation, natural resources, and spill procedures.
- Support the Army pollution prevention/recycling program.
- Report HM and waste spills immediately.
- Conduct environmental self-assessment or internal environmental compliance assessments.
- Meet with key installation environmental POCs.

Appointed personnel

These personnel are appointed by the commander and should receive formal training. Their responsibilities include —

- Act as an advisor on environmental regulatory compliance during training, operations, and logistics functions.
- Serve as the commander's eyes and ears for environmental matters.
- Be the liaison between the unit and higher headquarters who are responsible for managing the environmental compliance programs and who can

provide information on training requirements certifications that unit personnel need.

THE UNIT-LEVEL ENVIRONMENTAL TRAINING PROGRAM

An effective training program allows personnel to carry out their responsibilities. TC 5-400 is the basic manual for environmental stewardship. Commanders ensure all personnel are trained on environmental issues. He appoints an environmental compliance officer/HW coordinator. This person works with other environmental personnel. He also makes sure environmental laws are followed. The commander meets with the battalion S3 and S4 officers and other environmental personnel. He finds what their requirements concerning environmental training and qualifications of unit personnel, ECAS inspections that may affect the unit, and common environmental problem areas and how to avoid them. The commander also makes sure the SOP details environmental issues and procedures the unit must follow. The training program should cover —

- HM management
- HW management
- HAZCOM
- Pollution prevention and HAZMIN
- Recycling program
- Spill prevention/response plan

CHAPTER 2

PETROLEUM AND WATER UNITS IN THE THEATER

MISSION

The Army has a worldwide petroleum and water supply mission. The Army is tasked by DOD Directive 4140.25M, JCS Publication 3 and AR 700-136 to support all US land-based forces, including the Air Force, Marine Corps and Naval forces ashore. It is responsible for forward movement of fuel and water through a combination of pipelines, hose lines, barges, rail cars, tank trucks, and aircraft. The Army operates and maintains most US military petroleum and water facilities. These facilities support US forces that are:

- Engaged in limited war.
- Committed in general war within a highly industrialized area.
- Deployed to undeveloped operational areas.
- Deployed to operations other than war as outlined in FM 100-5.

ORGANIZATION OF THE THEATER ARMY

Units within the theater army operate the bulk petroleum and water system in a theater of operations. Figure 2-1, page 2-3, shows the bulk petroleum support organization in a developed theater. Figure 2-2, page 2-4, shows the bulk petroleum support organization in an undeveloped theater. Figure 2-3, page 2-5 shows the bulk water support in a developed theater. Figure 2-4, page 2-6, shows the bulk water support in an undeveloped theater. FM 10-67, FM 10-52, and FM 10-52-1 discuss organizational details.

PETROLEUM SUPPLY SYSTEM

The theater petroleum supply system begins with the receipt of bulk and packaged petroleum products. Packaged products enter the theater at dry-cargo ports or from aircraft at air terminals. Bulk petroleum enters

the theater by several methods. Ocean-going tankers may off-load it at marine/tactical petroleum terminals. It is also received in air-landed operations by Air Force transport. LOTS operations use pipelines and hose lines to offload tankers at undeveloped ports into tactical petroleum terminals. GS and DS petroleum supply units then distribute the petroleum products throughout the theater. It is shipped as far forward as possible without changing modes. FM 10-67 details bulk petroleum distribution in developed and undeveloped theaters. Figure 2-5, page 2-7, shows the system for distributing bulk petroleum in the theater. Figure 2-6, page 2-8, shows the flow for bulk petroleum within a developed theater. Figure 2-7, page 2-9 shows the requirements flow for bulk petroleum in an undeveloped theater.

SUPPORT ORGANIZATIONS FOR PETROLEUM SUPPLY SYSTEMS

The following organizations may be assigned, attached, or placed in support of petroleum pipeline and terminal operating battalions, petroleum supply battalions or transportation medium muck battalions. Also, the headquarters and headquarters petroleum group may have additional teams assigned to it. These teams provide services unique to bulk petroleum distribution and petroleum quality management. See figures 2-1, page 2-3, and 2-2, page 2-4:

- Petroleum Pipeline and Terminal Operating Company (TOE 10-417LO). This company is normally attached to a petroleum pipeline and terminal operating battalion. FM 10-207 discusses this organization.
- Petroleum Supply Company (TOE 10-427LO). This company is normally attached to the headquarters and headquarters company of the Petroleum Supply Battalion. FM 10-227 discusses this organization.

SUPPORT ORGANIZATIONS FOR WATER SUPPLY SYSTEMS

- Transportation Medium Truck Company (Petroleum, Oils, and Lubricants (POL) (TOE 55727L000 and 55728L000). This company may be assigned to the petroleum supply battalion and/or the petroleum pipeline and terminal operating battalion.

- Petroleum Liaison Team (TOE 10560LM00). This team is normally assigned to the headquarters and headquarters company, petroleum group. See Chapter 7 for more information.

- Petroleum Host Nation Team (TOE 10560LS00). This team is normally assigned to the headquarters and headquarters company, petroleum group. See Chapter 7 for more information.

WATER SUPPLY SYSTEM

The theater water supply system begins with water production at a water source or the entry of packaged water into the theater. Water sources include deep water sources (ocean, sea or lake) or inground sources (wells, springs, or streams). Medical preventive medicine teams approve the use of all purified and packaged potable water in the water distribution system. In an arid environment, GS and DS water supply units distribute bulk water from the COMMZ to supported units. It is shipped as far forward as possible without changing modes. FM 10-52 gives more information on bulk water distribution. It discusses distribution procedures in a developed and an undeveloped theater. It also discusses supply systems planning, development, and operations. FM 10-52 discusses support by the host nation and bulk water transportation requirements. Figures 2-8, page 2-10, and 2-9, page 2-11, show the flow of requirements in a theater.

The following supporting organizations are assigned, attached, or placed in support of water supply battalions assigned to the quartermaster group (petroleum and water) as required. See figures 2-3, page 2-5, and 2-4, page 2-6.

- Water Supply Company (TOE 10468 L). The company is normally attached to a water supply battalion. FM 10-52 gives more information.

- Tactical Water Distribution (Hose Line) Team (TOE 10570LG). This team normally augments a water supply company. These teams lay, operate and retrieve TWDS. FM 10-52 gives more information.

- QM Water Purification Teams (TOE 10570LC). These teams operate in the Corps area and augment Corps-level DS purification units.

- Water Purification Detachments (TOE 10469L). The detachment normally augments a water supply company. These detachments operate the 3,000 GPH ROWPU. FM 10-52 gives more information.

- Water Purification Barge Team (TOE 10570LA). The team normally augments a water supply company or water supply battalion. It purifies seawater. It has two ROWPU'S mounted on a barge. Each can produce 150,000 GPD of potable water. FM 10-52 gives more information.

- Transportation Medium Truck Company (TOE 55727L200 & 55728L200). Truck companies are assigned to the water supply battalion and issued SMFT'S to perform the line-haul mission. The difference between the two TOE's is SMFT capacity, TOE 55727L carries the 4,750 gallon fabric tank while TOE 55728L carries the 3,000 gallon fabric tank. FM 10-52 gives more information.

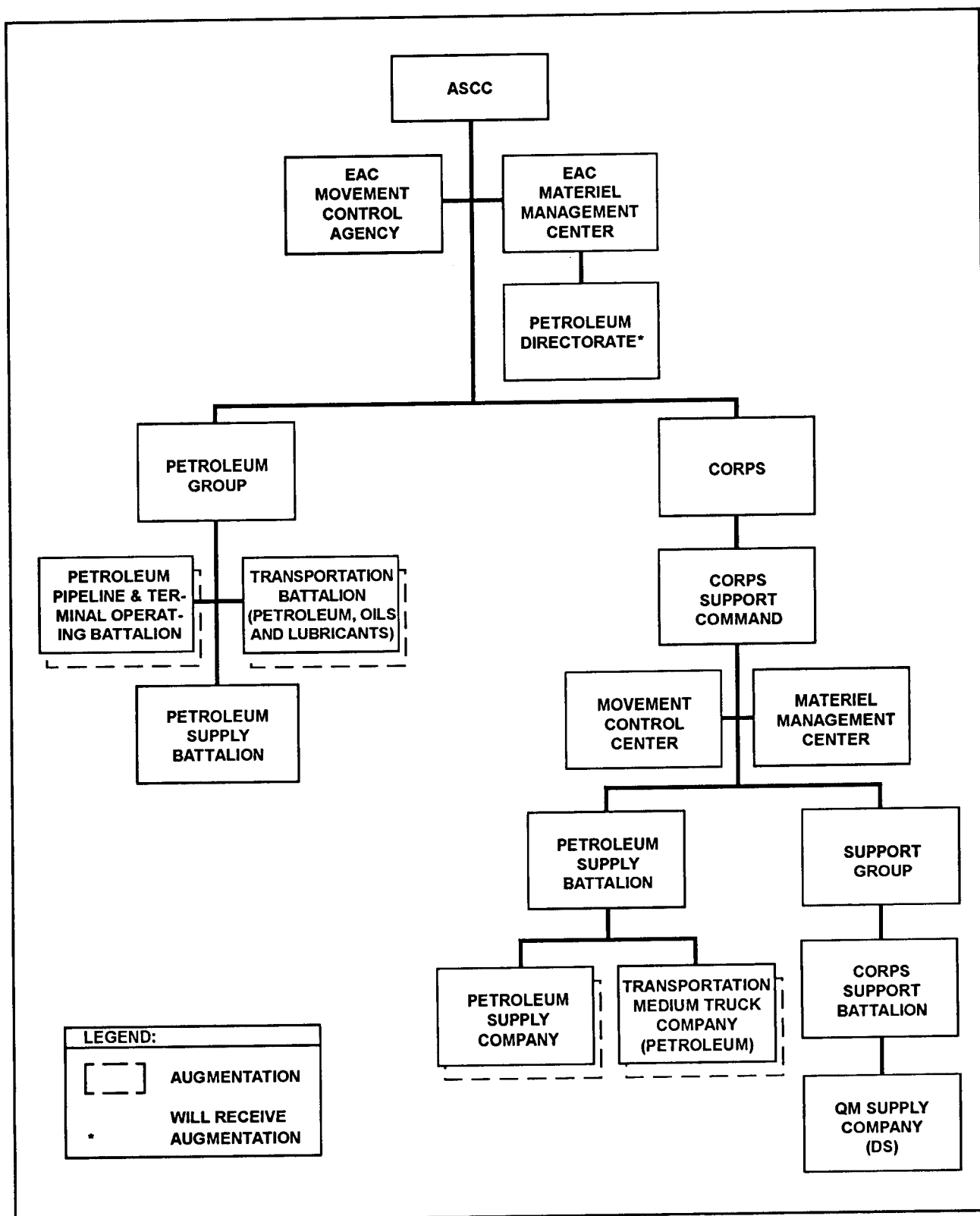


Figure 2-1. Bulk petroleum support organizations in a developed theater

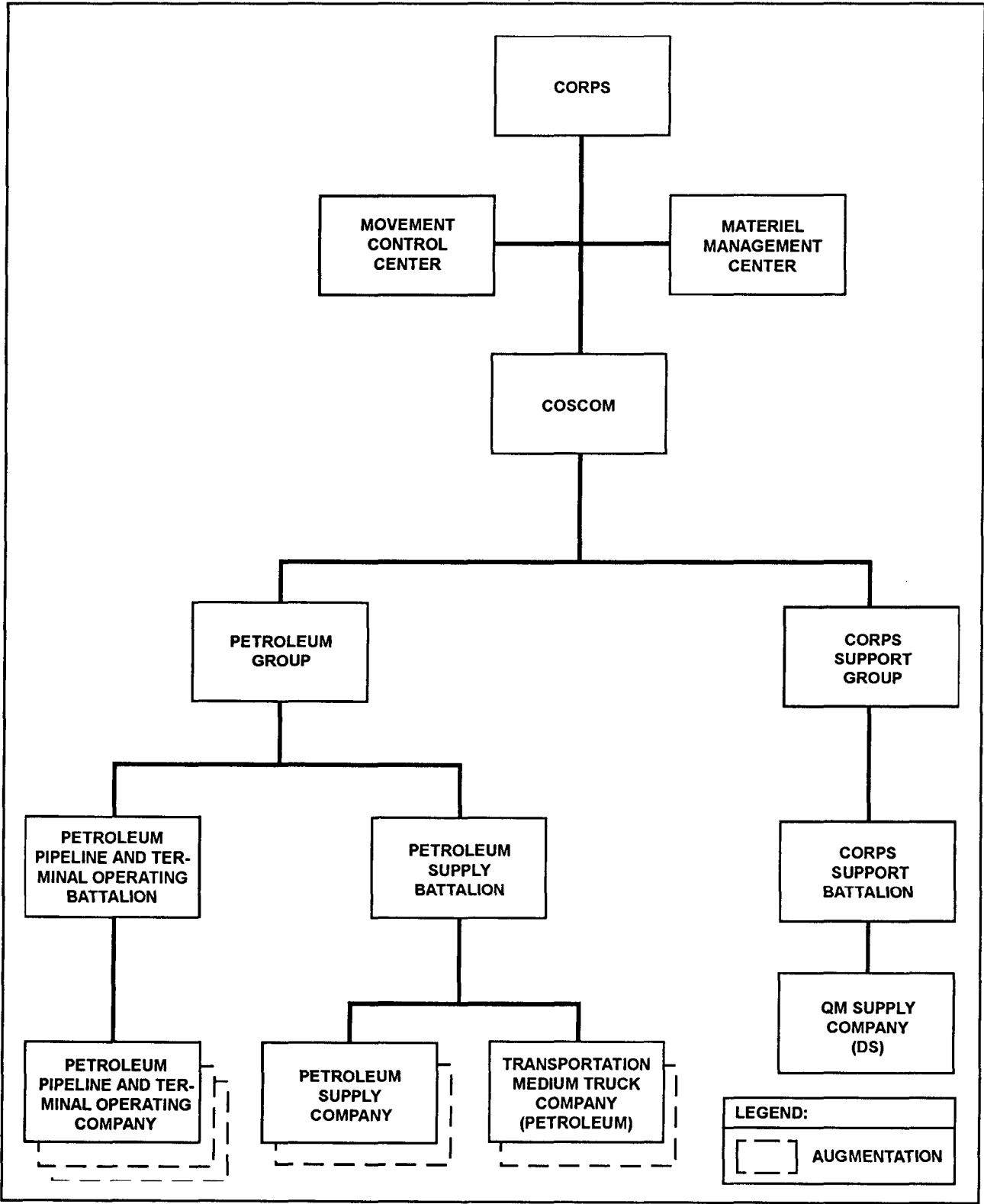


Figure 2-2. Bulk petroleum support in an undeveloped theater

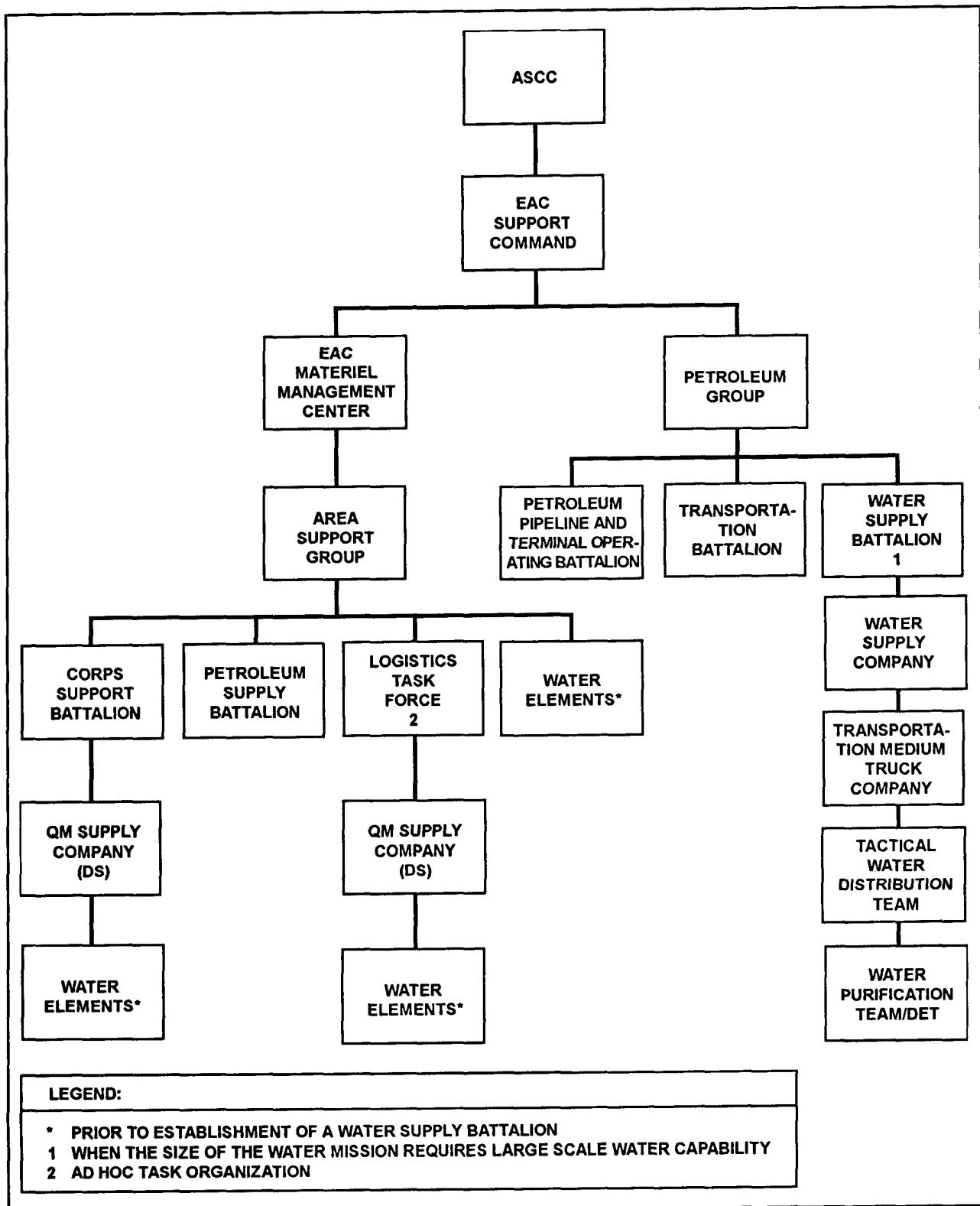


Figure 2-3. Bulk water support organizations in a developed theater

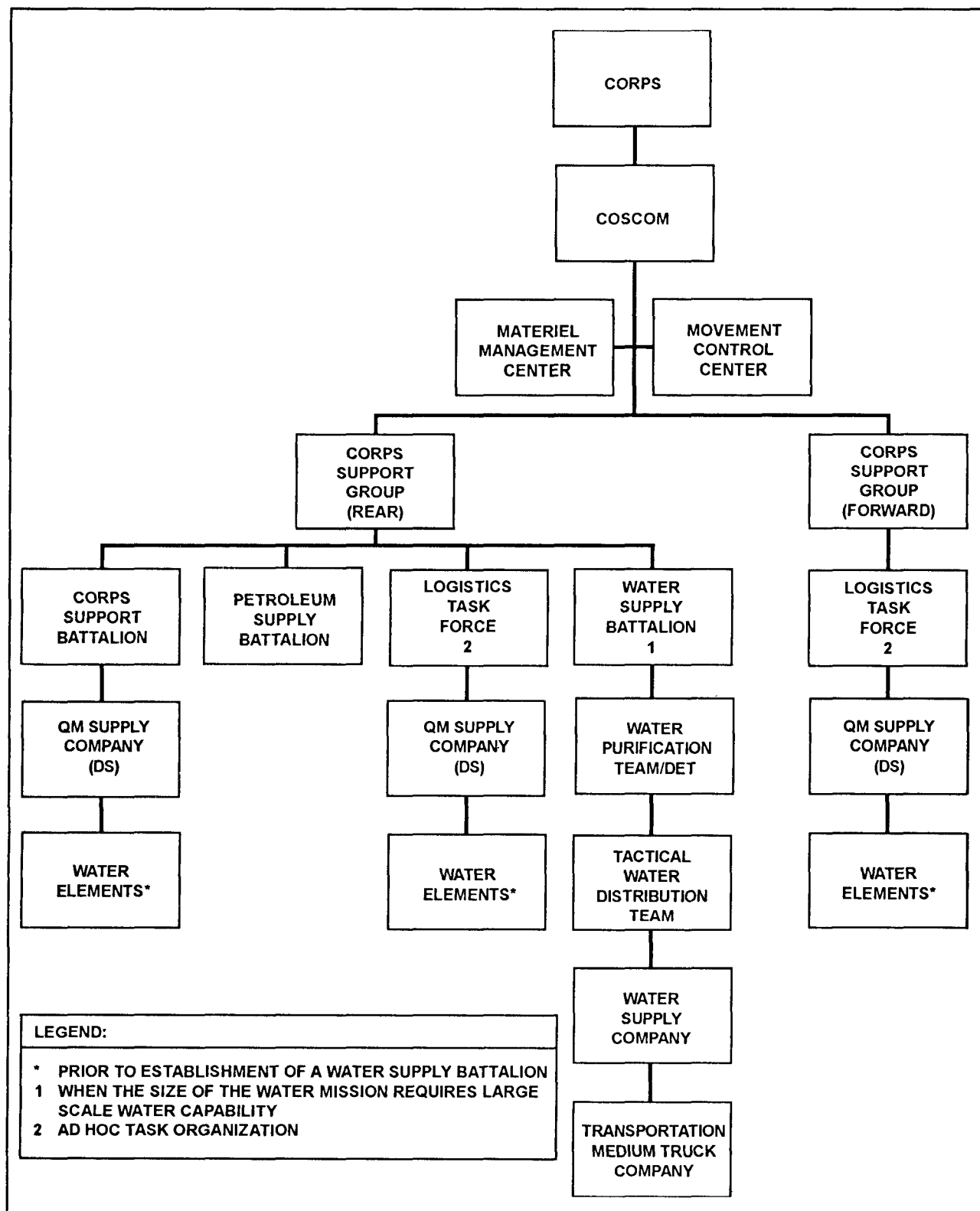


Figure 2-4. Bulk water supports in an undeveloped theater

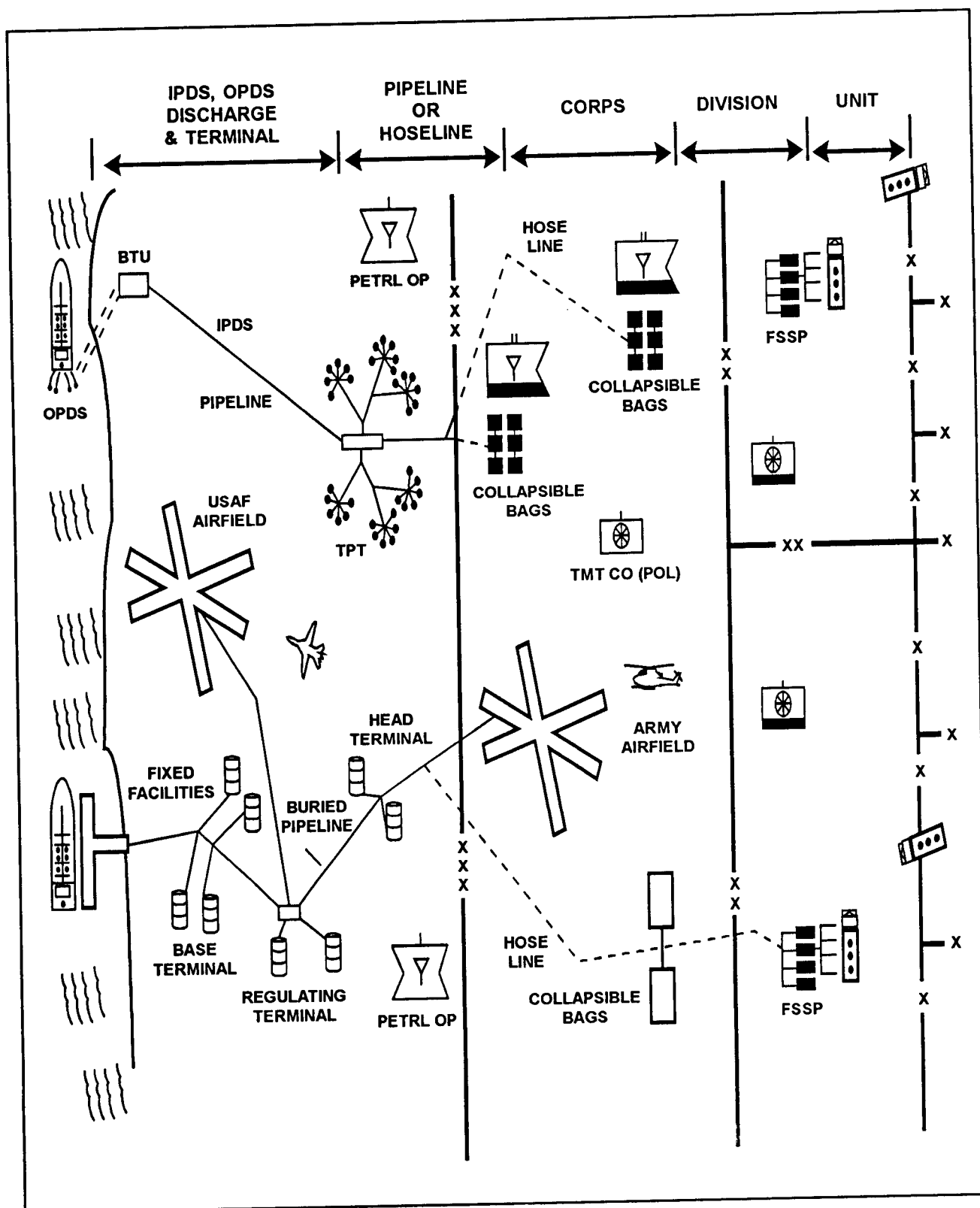


Figure 2-5. Theater bulk petroleum distribution

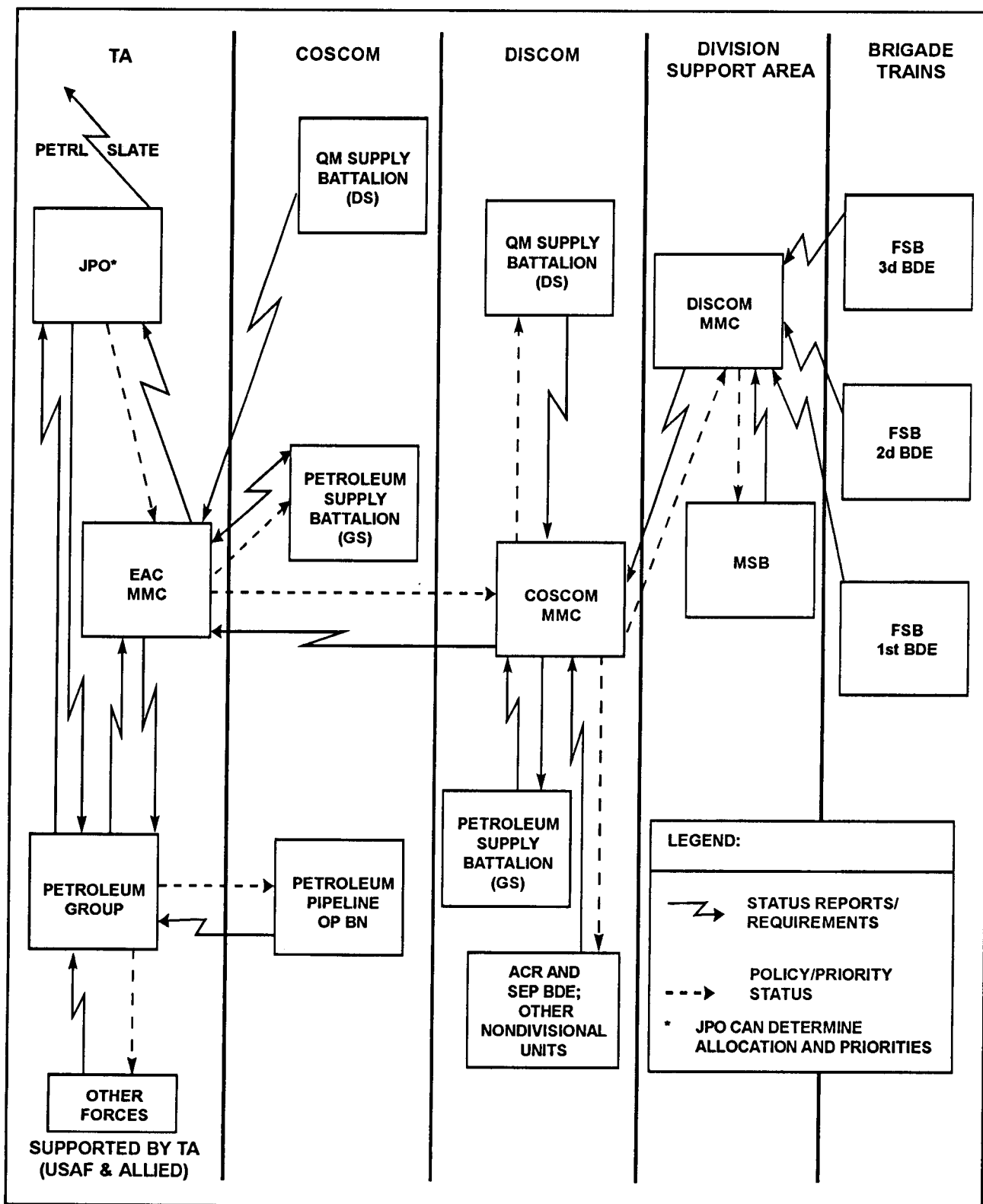


Figure 2-6. Bulk petroleum requirements flow in a developed theater

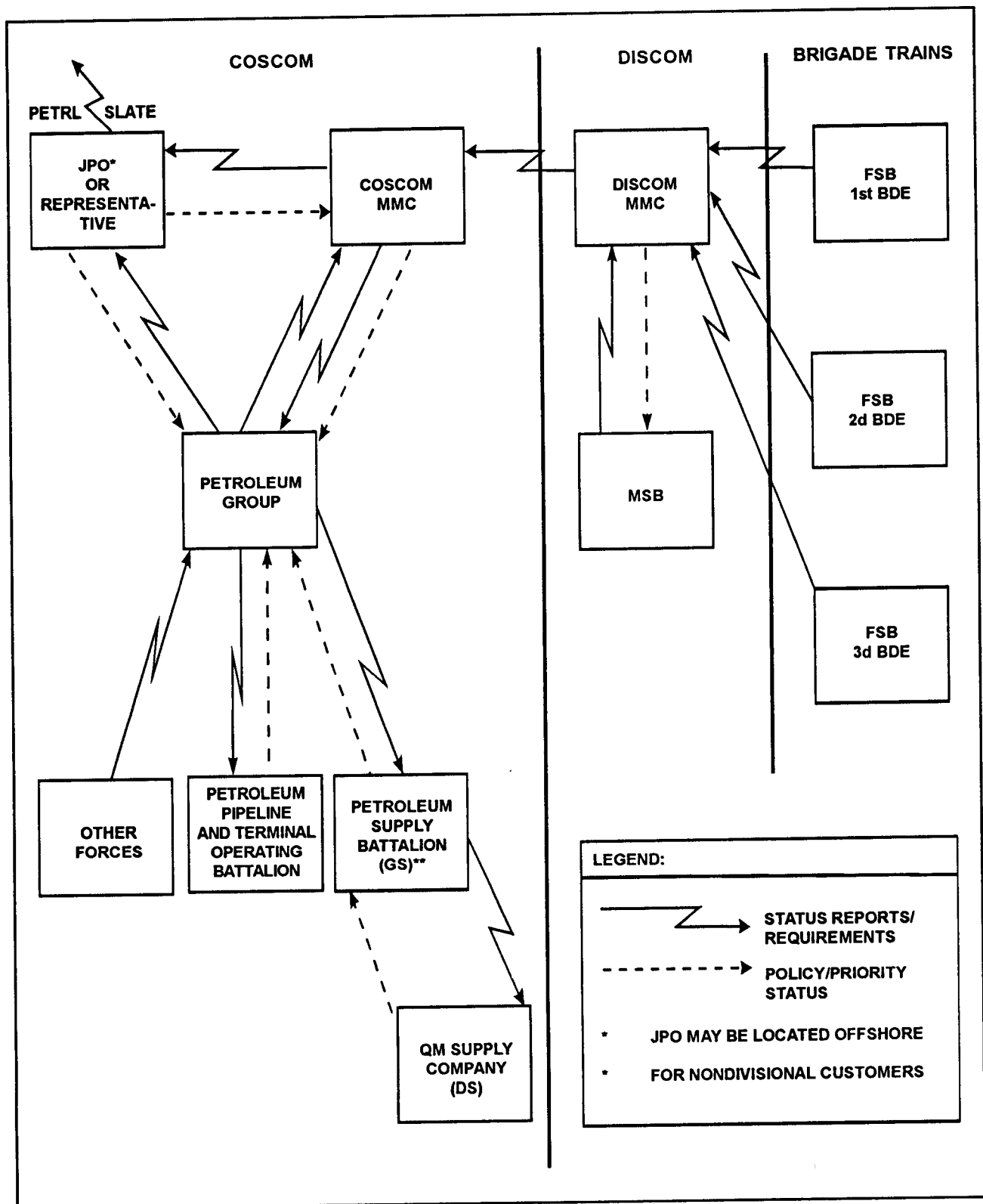


Figure 2-7. Bulk petroleum requirements flow in an undeveloped theater

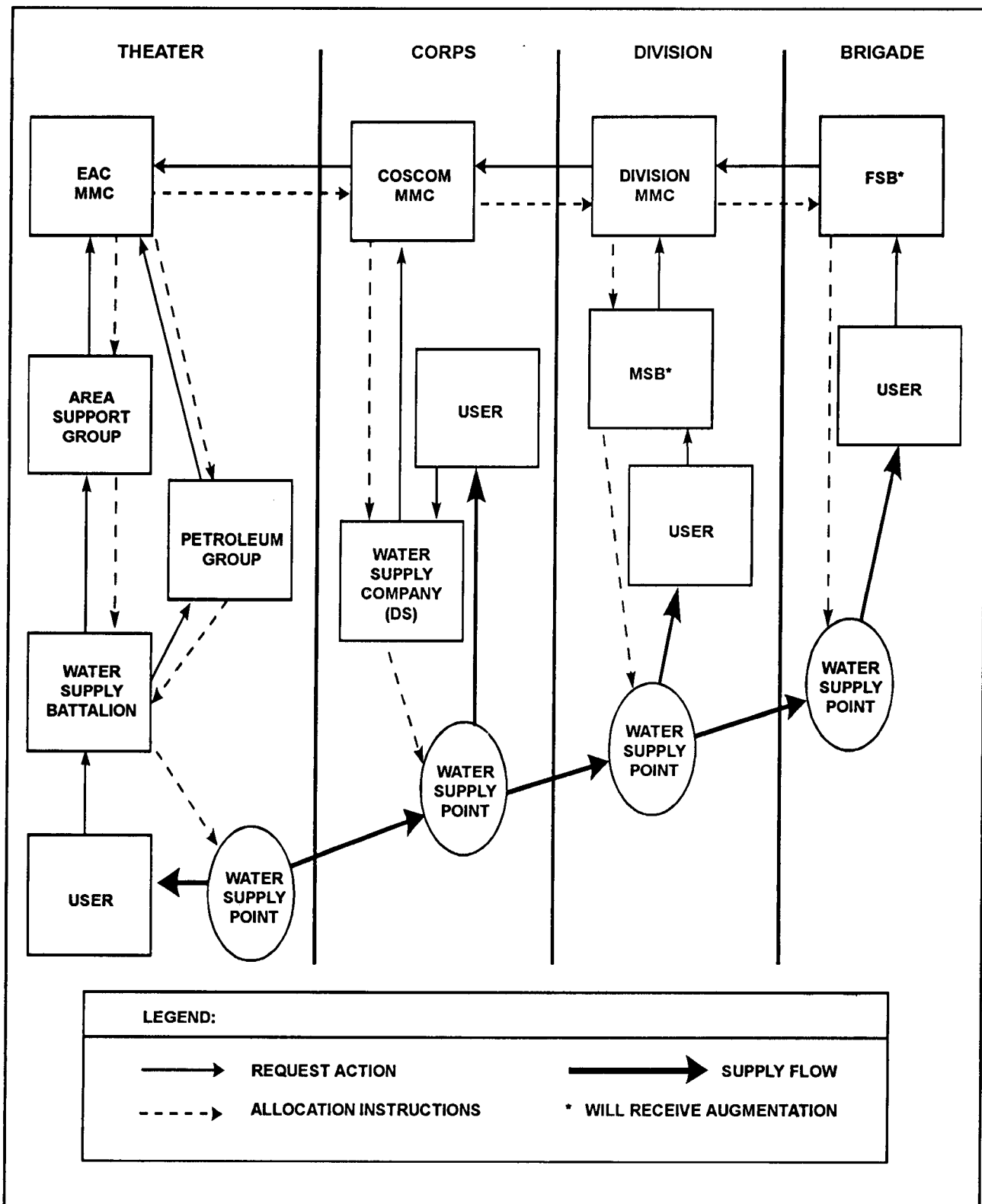


Figure 2-8. DS water support in arid regions

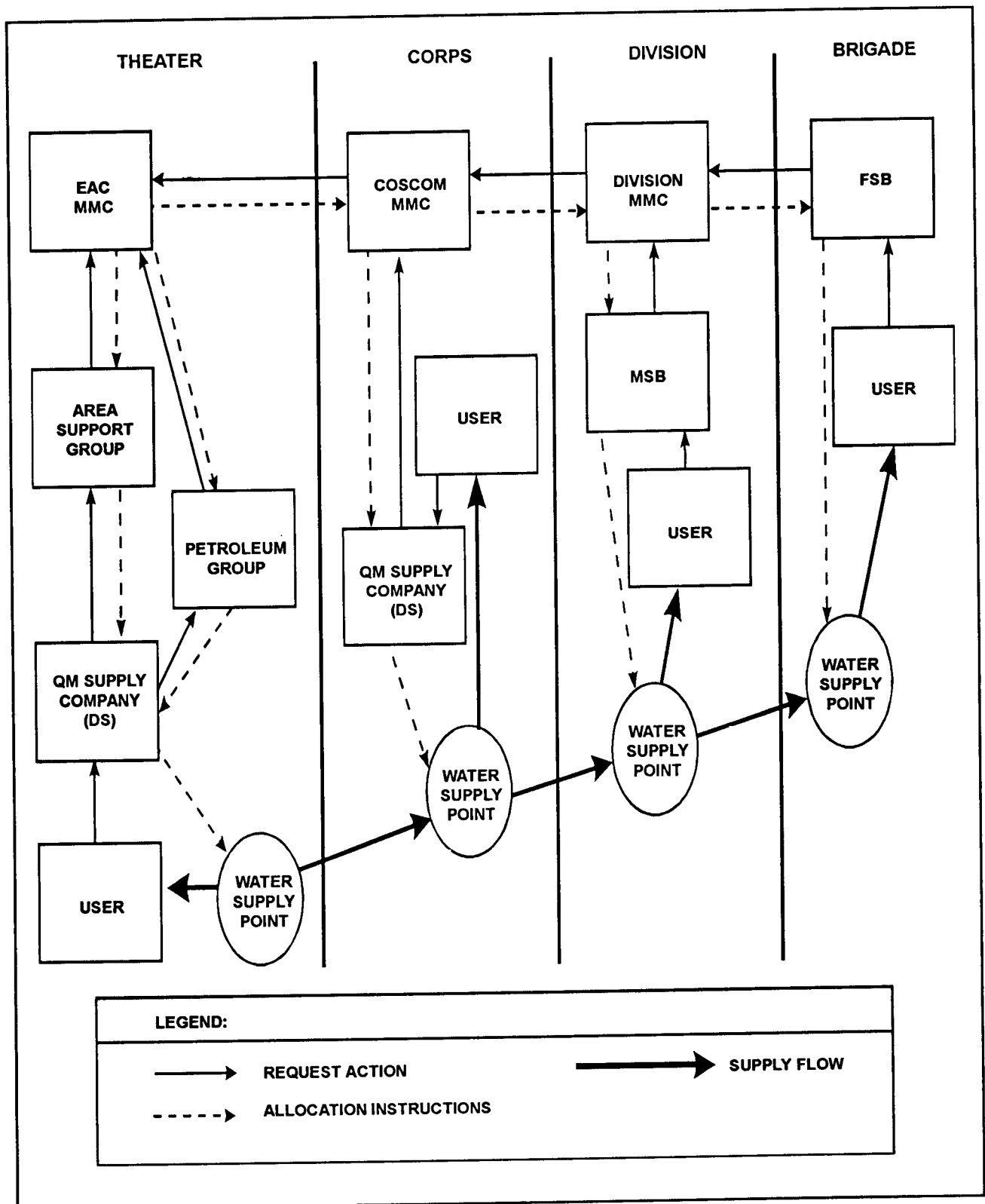


Figure 2-9. DS water support in nonarid regions

CHAPTER 3

ORGANIZATION AND OPERATIONS OF THE HEADQUARTERS AND HEADQUARTERS COMPANY, QUARTERMASTER GROUP (PETROLEUM AND WATER)

Section I THE ORGANIZATION

MISSION

The company's mission is to plan, control and supervise the supply of bulk petroleum products and water. It also coordinates theater petroleum and water distribution systems. The company coordinates with the EAC MMC or the CMMC for distribution of petroleum and water in the theater. These organizations provide bulk petroleum and water centralized management.

ASSIGNMENT AND BASIS OF ALLOCATION

One or more headquarters and headquarters companies (TOE 10602L0) are assigned to each ASCC headquarters. They are assigned to a COSCOM in the absence of an ASCC headquarters.

CAPABILITIES

The company's capabilities are determined by the personnel strength levels and equipment authorization levels prescribed in TOE 10602L0. The Headquarters and Headquarters Company, Quartermaster Group (Petroleum and Water)—

- Provides command and control for two to five battalions (petroleum pipeline and terminal operating, petroleum supply, transportation, or water supply) and supervises other assigned or attached units.
- Coordinates requirements with the engineer command. (It constructs and maintains POL and water facilities.)
- Implements the theater petroleum quality surveillance.

- Plans bulk petroleum receipt, storage, and distribution.
- Distributes bulk petroleum to US Army, Navy, Air Force, and other supported activities based on the EAC MMC directives.
- Plans for the development, employment, sustainment, and redeployment of the IPDS.
- Implements host nation support operational procedures as directed by the petroleum division, EAC MMC.
- Provides liaison to agencies involved in petroleum distribution operations within the theater or corps.
- Provides operational guidance to assigned units involved in petroleum distribution operations.
- Provides command supervision for petroleum supply battalions assigned to an independent corps.
- Advises the theater army commander on the capabilities and status of the Army IPDS within the organizational structure of the petroleum group.
- Provides command supervision and technical guidance to water supply battalions and other water units throughout the theater.
- Develops plans for producing, receiving, storing, and distributing bulk potable water.
- Transports 33 percent of its TOE equipment and supplies in a single lift using its authorized organic vehicles.

ORGANIZATION

Figure 3-1, page 3-2, shows the company organization. Sections II through XII of this chapter discuss each element of the headquarters in detail.

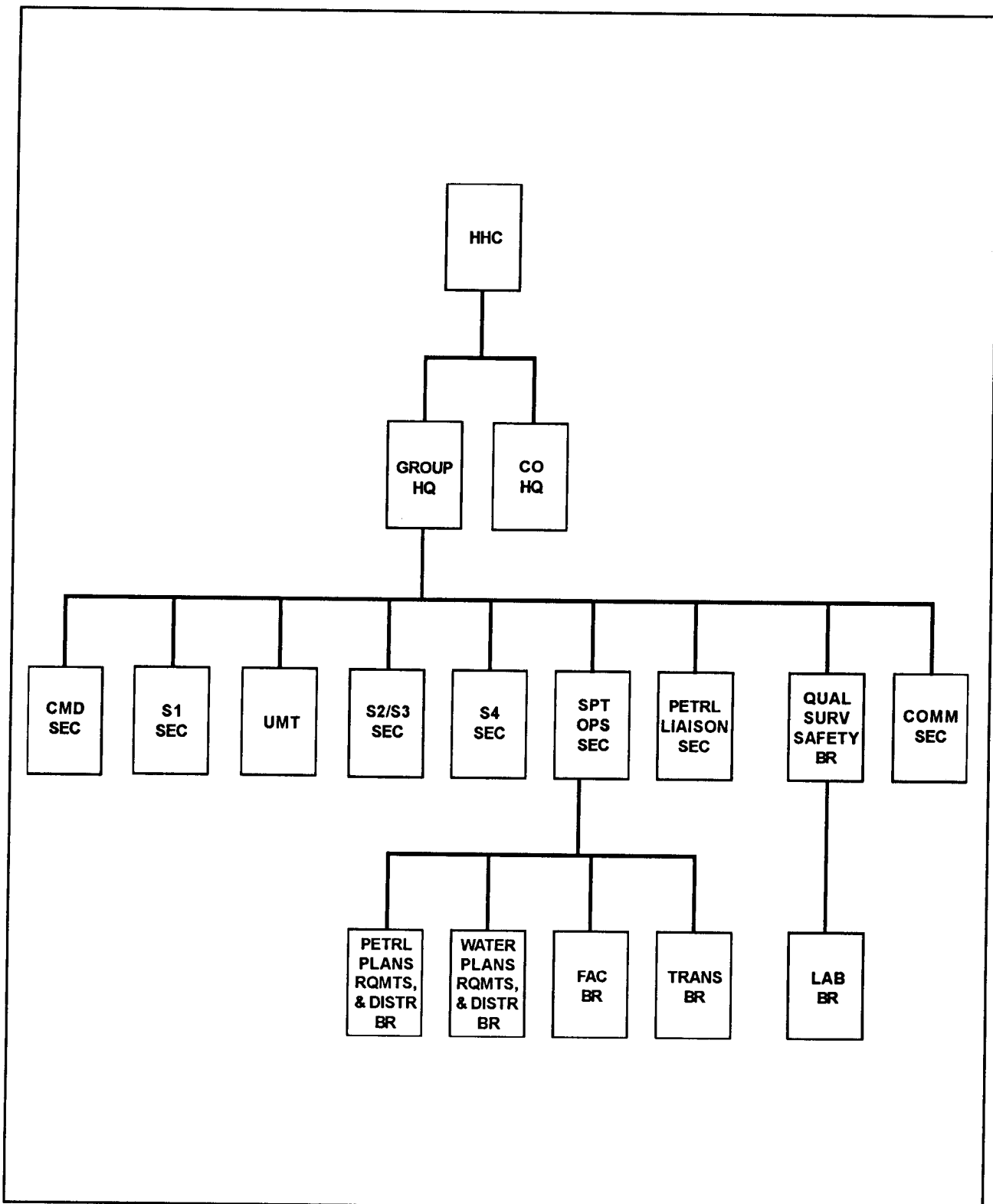


Figure 3-1. Organization of the headquarters and headquarters company, quartermaster group (petroleum and water)

Section II GROUP HEADQUARTERS

MISSION

The group headquarters plans and coordinates bulk petroleum and water support in the theater army. It also supervises assigned and attached units operating petroleum distribution systems.

RESPONSIBILITIES

The group commander (Colonel, 92F00) is responsible for the quartermaster group mission. This includes the group headquarters command section and assigned and attached units. His job is to—

- Supervise petroleum and water resource development, including handling equipment, facilities, and construction.
 - Provide command and control to assigned petroleum pipeline and terminal operating battalions, petroleum supply battalions, water supply battalions, transportation medium truck units, petroleum liaison teams and host nation battalion equivalents and other assigned and attached units.
 - Direct the planning needed to monitor the petroleum and water distribution systems.
 - Direct the planning for potable water production in support of the theater.
 - Prepare to provide bulk potable water support to USAF, USN, and USMC units and, if required, to combined and coalition forces.
 - Direct the planning needed to extend and develop petroleum and water distribution systems.
 - Direct the planning needed to make the best use of personnel, equipment, and facilities.
- The company plans and executes missions to comply with national, state, local, and host nation environmental laws as they apply to the scope of the operation to include conducting environmental and safety risk assessments for proposed operations.

PERSONNEL

Effective operation of the headquarters requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel are the commander, his staff, and the soldiers who assist him and his staff. Key personnel include—

Executive Officer (Lieutenant Colonel, 92F00). Assists the commander and also coordinates the functional staff activities.

• Support Operations Officer (Lieutenant Colonel, 92F00). Directs the supply support distribution functions of the support operations section. Section VII gives details on his responsibilities.

• Chaplain (Major, 56A00). Provides the staff chapel services at group headquarters along with the senior chapel activities specialist. Section IV gives more on his responsibilities.

• Communications and Electronics Staff Officer (Major, 25C00). Plans for and advises the commander and staff on the installation and operation of communications systems.

• S1 Officer (Major, 41A00). Directs the functions of the S1 section. Section III gives more on his responsibilities.

• S2/3 Officer (Major, 92F00). Directs the functions of the S2/3 section. Section V gives more on his responsibilities.

• S4 Officer (Major, 92 B00). Directs the functions of the S4 section. Section VI gives more on his responsibilities.

• Command Sergeant Major (E9, 00Z50). Serves as the principal enlisted assistant to the commander. This includes executing established policies and standards pertaining to the performance, care, conduct, appearance, personnel management, and training of enlisted soldiers. This includes also—

.. Providing advice and making recommendations to the commander and staff on all matters pertaining to enlisted soldiers and their families.

.. Accompanying the commander on inspections, visits, and at ceremonies, or acting in his place in these capacities when directed by the Commander.

.. Training and directing subordinate NCOs.

.. Ensuring newly assigned soldiers are instructed in military courtesy, customs of the service, and command regulations or policies.

.. Providing counsel and guidance to NCOs and other enlisted soldiers in the command.

.. Inspecting duties performed by subordinate NCOs.

.. Assisting in reception of visitors to the command.

.. Sitting as president or member of command promotion board for NCOs as authorized by regulation.

.. Performing other duties prescribed by the commander.

He may be responsible for discharging the duties listed above at sites dispersed over long distances in a tactical environment. During tactical operations, the CSM should also act as the commander's representative in supervising aspects vital to the operation, as determined by the commander and himself. The CSM can lead the quartermaster party during major movements or otherwise supervise movement of portions of the group headquarters. He can assist in or direct portions of CSS operations for the group headquarters, portions of which may be spread long distances. He may act as a liaison to higher, adjacent and subordinate units, or with host nation assets, all of which may be located long distances from the group headquarters.

- Executive Administrative Assistant (E4, 71C10). Provides administrative support to the commander. Maintains the commander's appointment calendar.
- Chauffeur (E5, 88M20). Drives for the commander. Maintains the commander's vehicles. Assists the executive administrative assistant as needed.

OPERATIONS

The headquarters' major function is to provide supervision and direction to the overall operation of the group. The commander and his staff must consider the following factors described below.

Deployment

The group commander and his staff prepare the movement order, select new sites and assign supply responsibilities. They must coordinate with all moving sections to fulfill their transportation and other requirements. The company commander's plans and orders provide for the company's rapid movement. They also provide for re-establishment of the company with continued supply flow. Section II of Chapter 8 gives more information.

Assigned or Attached Units

The S4 section plans the support of assigned or attached units. This planning covers the arming, fueling,

and maintenance support of the units. FM 100-5 gives a more detailed discussion.

Staff Sections

Staff sections will —

- Provide information.
- Make estimates and recommendations.
- Prepare plans and orders.
- Supervise plans and orders execution.

Air Defense Priorities

The staff receives and coordinates subordinate units' security requirements and the support area. This includes air defense requirements. They then establish air defense procedures and priorities. FM 44-1 has more discussion.

Transportation Resource Allocation

Transportation assets are a critical resource. Detailed planning, coordination and allocation are necessary for effective use.

Tactical and Technical Performance of Units

Staff personnel monitor the tactical and technical performance of soldiers in headquarters and subordinate units. Use this manual to identify mission and performance criteria for units under the headquarter's control.

Religious Activities

The chaplain and the senior chapel activities specialist coordinate group chapel activities. They make sure area and denominational chapel activities are available to unit and host nation personnel. The chaplain should select and staff a plan that ensures liaison with chaplains of higher, adjacent, civilian, allied, and civil and military affairs units. He should coordinate with civilian religious organizations and other groups that assist in religious and moral activities. AR 165-1 has guidance on religious activities.

Section III S1 SECTION

MISSION

The S1 section plans, coordinates, and supervises administrative and personnel activities. To accomplish this, the section performs many functions.

The section—

- Distributes messages.
- Maintains records.

- Publishes orders.
- Maintains liaison with supporting financial activity.
- Manages personnel services

RESPONSIBILITIES

The group S1 officer supervises S1 section operations. This section carries out all administrative and personnel functions of the petroleum group. The group S1 advises other staff officers and the commander in these areas. He supervises activities in the following specific areas:

- Unit strength.
- Manpower management.
- Personnel management.
- Morale.
- Health and safety.
- Discipline, law, and order.

PERSONNEL

Effective operation of the section requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel include—

- Personnel Administrative Officer (Captain, 42B00). Establishes and implements personnel and administrative policies and is the principal assistant to the S1 officer.
- Senior Retention Sergeant (ES, 00R50). Determines qualifications for reenlistment and also processes reenlistment paperwork.
- Personnel Sergeant (E7, 75Z40). Plans, coordinates, and supervises the organization's military personnel.
- Legal Sergeant (E6, 71D30). Maintains all legal paperwork in the group. Provides legal administrative support and special courts-martial support to the soldiers and commander.
- Administrative Sergeant (E5, 71L20). Serves as the administrative specialist's immediate supervisor. Provides technical guidance to the section.
- Administrative Specialists (E4, 71L10; E3, 71L10). Performs all administrative functions to include establishing and operating the MARKS and preparing the section's correspondence.

OPERATIONS

The section's major function is to provide personnel and administrative support to the group. The section must consider the following factors described below.

Administrative Support

The section authenticates orders and directives and maintains the filing system IAW MARKS. The section

prepares, verifies and submits casualty feeder reports to the casualty section of the appropriate commander. The section takes prompt action on administrative instructions received from higher headquarters and requests from subordinate units. The section maintains accurate personnel records. It assigns replacements according to MOS and unit requirements. AR 672-5-1 gives standards on how to prepare, review and process recommendations for awards and decorations. AR 600-200 has guidance on planning enlisted personnel management system procedures.

SIDPERS

This unit does not operate a PAC. Therefore, the unit is not responsible for operating a SIDPERS system. It must provide input for SIDPERS to its supporting PAC, however.

Personnel Management

The section has several responsibilities for administering personnel management. The section's personnel management responsibilities are—

- Personnel requirements. Subordinate units send the section their personnel status reports. Once section personnel know unit requirements, they coordinate soldier assignment priorities with the S2/S3 officer, unit commanders, and the group commander. It assigns personnel based on valid position numbers in the UMR. DA Pamphlet 600-8-1 gives more information. The section designates assignments for each person during the current SIDPERS cycle. Then it inputs the necessary information in the next SIDPERS cycle. FMs 12-1, 12-2, 12-3-2, 12-3-3 and 101-10-1 give information on planning the personnel management program.
- Casualties. Subordinate units will send the section their casualty reports. Within 1 hour after receipt, the section prepares a SIDPERS deceased transaction and a SIDPERS organization strength report change. DA Pamphlet 600-8-1 outlines procedures. Report strength figures are extracted from current unit totals.
- Equipment, Documents and Enemy Prisoners of War (EPW). When subordinate units take EPW's, the S1 section provides processing guidance. They give instructions for EPW evacuation and interrogation. The section coordinates procedures with local military police. They also coordinate with the S4 section for captured materiel evacuation and with the S2/S3 for document evacuation. Procedures for EPW handling are in FM 19-40 and FM 30-15, Chapter 3. FM 101-10-1 gives general guidance.

- Personnel daily strength summary. Subordinate units report their maintenance and unit strength data each day. When reporting to higher headquarters, units show the section all organic and attached units separately. They identify them by line number. They do not show detached units. By 1800 on the date of the report, the section reports recorded data to higher headquarters by unit, attachment and group. They report strength, losses, gains, number of EPW's, number of days in the area of operations, and number of days in combat.

- Personnel data card. The section maintains DA Form 2475-2. This form provides strength accounting for personnel that are not members of the Active Army attached to the unit. Post the PDC according to DA Pamphlet 600-8-1. They record loss and casualty data. Next, they post the UMR and the zero balance report. They use data from the PDC to do this. After posting data, the section sends part 1 of the PDC to higher headquarters.

- Replacement personnel. The section in-processes replacements. They verify assignments based on vacancies with the unit and recommendations of the S2/S3 officer. They send assignment notice to the receiving unit. They also note this on the UMR. They ensure units submit SIDPERS transactions to the higher headquarters. DA Pamphlets 600-8 and 600-8-1 give more information. The section orients replacement personnel to the unit the day they arrive. The orientation includes information on unit mission, the chain of command, mail procedures, personnel policies, and personnel services as a minimum.

Personnel Services

The section manages personnel services program. It administers such matters as leaves, passes, and rotations. It also includes—

- Projected quotas for each unit for rest camps, recreation centers, and leave areas.
- Information on services provided by Army Emergency Relief and the chaplain and information on the Staff Judge Advocate, the Equal Opportunity Office, and special services.
- Actions taken on finance coordination with the supporting finance office. FM 14-6 gives guidance.
- Scheduling of personnel services for minimum interference with the unit's mission.
- Coordinates transportation requirements for movement to service areas.

Discipline, Law and Order

The S1 administers actions under the UCMJ. AR 27-10 gives more information. The S1 officer also recommends measures to the commander to improve discipline, law, and order.

Morale Support

Section personnel monitor subordinate units' morale by making unit visits. To evaluate unit morale and morale enhancement programs, they should follow the guidelines in FMs 22-101 and 101-5 and DA Pamphlet 1-2.

Labor Services

Subordinate units identify and report labor requirements to the section. The section then processes requests for civilian labor. The S1 ensures the requests meet approved guidelines. He then coordinates civilian labor requirements with supporting labor service teams. The section coordinates the use of labor in functional areas with all other staff sections. FM 101-10-1, and FM 100-10, Chapter 13 give guidance.

Legal Assistance

The section's legal sergeant provides legal administrative support and special courts-martial support to the soldiers and commander.

Medical Support

The S1 section coordinates with the local medical commander to determine the location of facilities and the services available. Section personnel coordinate procedures for routine and emergency evacuation. The S1 prepares a medical plan that ensures adequate coverage for all subordinate units. These plans should include dental support, instructions for treatment, and chain of medical evacuation. It should also include hospitalization and preventive medicine support beyond organic capabilities. FM 8-10 discusses the procedures for providing medical support. FM 101-10-1 also gives more information.

Command and Public Information

The section briefs the commander's staff and unit commanders on command information. The command briefing should include the following information as a minimum:

- Planning information activities.
- Publishing command information in newspapers and other media.

- Operating command information broadcast stations and networks.
- Reviewing information for security clearance before public release.

Library Services

The section operates a central records library for documents kept longer than 30 days. The section services the units or individuals requesting information or

copies of documents from the library. AR 25-400-2 gives guidance on setting up an organized library file system.

Files and Records

Publications and files of supported units should be checked to ensure they are current. They should be maintained according to regulations. AR 340-2 gives guidance files and records maintenance. A list of current publications is in DA Pamphlets 310-1 and 310-35.

Section IV UNIT MINISTRY TEAM

MISSION

The UMT provides for the unit's religious ministry, pastoral care, and moral and ethical well-being. It advises the commander and staff on moral, morale and religious matters.

RESPONSIBILITIES

The chaplain is responsible for making sure his section successfully accomplishes all of the functions of its mission. The chaplain's responsibilities include—

- Coordinating, integrating, and supervising all chaplain activities, religious services, ministries and observances and the use of facilities as approved by the commander.
- Establishing and maintaining liaison with staff chaplain of higher, equal, or subordinate headquarters, the other military services, government agencies, the armed forces of allied nations, and officials of civilian churches and other religious organizations.

- Facilitating the "free exercise" rights of all personnel, regardless of religious affiliation of either the chaplain or the unit member.

- Providing cross-cultural recommendations to the commander and facilitates appropriate training.
- Providing area coverage within the geographical area or as specified in the area coverage plan.
- Providing denominational services where practical.
- Providing chaplain coverage to EPW's and all others as outlined in AR 165-1.

PERSONNEL

The group chaplain supervises UMT operations. UMT personnel consists of the Chaplain's Assistant (E5, 71M20). He performs or supervises the performance of specified elements of religious support in the battlefield or in garrison. He provides personal protection and administrative support to the group chaplain.

Section V S2/S3 SECTION

MISSION

The S2/S3 section directs the planning, coordinating, and supervising of group activities. It provides guidance in intelligence, security, organization, and training for subordinate units. The S2/S3 section—

- Coordinates base cluster defense plans with the RAOC.
- Develops and uses training programs.
- Plans, directs, coordinates, and supervises intelligence, counterintelligence, and civil affairs programs.
- Develops and coordinates security and defense plans.

RESPONSIBILITIES

The S2/S3 plans and supervises the organization, training, and deployment of assigned and attached units. His responsibilities include—

- Developing policies for the training of the command and training evaluation.
- Exercising staff supervision over all intelligence, security, and defense activities.
- Preparing broad planning guidance, policies, and programs for command organizations, operations, and functions, to include environmental stewardship programs. Particular areas of environmental interest are training programs and land management (see TC 5-400).

PERSONNEL

Effective operation of the section requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel include—

- Security Officer (Captain, 35A00). Serves as the principal assistant to the S2/S3 Officer. Supervises the functions of security, intelligence, and training of personnel.

- Chemical Staff Officer (Captain, 74B00). Prepares, plans, and recommends NBC training. Advises the commander and staff on plans for security and protective measures. Helps units make plans to reduce the effects of an NBC attack.

- Petroleum Operations Sergeant (ES, 77F50; E7, 77F40). Assists the security and intelligence officer. Plans to ensure security of the pipeline storage system. Also coordinates the intelligence and counterintelligence programs.

- NBC Operations/Staff NCO (E7, 54B40). Assists in planning and applying NBC defense measures for subordinate units. Coordinates decontamination operations.

- Administrative Specialist (E4, 71L10). Performs all administrative functions to include establishing and operating the MARKS, and preparing section correspondence.

OPERATIONS

The section's major function is to plan the organization, training, and deployment of the Group's units. The commander and his staff must consider the following factors as described below.

Intelligence

Section intelligence operations include—

- Preparing an OPLAN and OPORD. This section maintains the current intelligence summary and an estimate. An analysis of a summary and an estimate will help in preparing an OPLAN and OPORD. The section develops the situation and mission statement for operations orders and plans. The section consolidates annexes from the other staff sections to complete OPORDs and OPLANs. The completed OPORD gives subordinate units the essential information to carry out an operation. An operations order's basic elements (organized as paragraphs) are situation, mission, execution, service and support, command, and signal. FM 101-5 has more information.

- Developing Group Contingency Plans. These plans provide for major contingencies possible in the principal

geographic subareas of the command. The operations section helps the commander and staff integrate, evaluate, and interpret data from contingency plans. The section also supervises group contingency planning.

- Maintaining Intelligence and Counterintelligence Requirements. The section reviews and revises intelligence and counterintelligence requirements. Intelligence information is collected, analyzed, processed, and disseminated continuously. This process requires close supervision and planning to execute. FM 34-60 covers counterintelligence. It discusses the counterintelligence estimate, work sheet, and plan. The worksheet is an essential aid. It is the basis for preparing counterintelligence plans, orders, and requests. The S2 officer analyzes the threat situation and makes recommendations when necessary. He also provides information to subordinate units as required. FM 34-60 gives helpful information on intelligence.

- Providing Subordinate Units with Information. Higher headquarters will provide the group with an intelligence report on the expected action of opposing forces. The section sends applicable report portions to all group units. The S2/S3 officer provides guidance on alternate routes if main supply routes are blocked or destroyed.

- Briefing Higher Headquarters. The S2/S3 section informs higher headquarters of subordinate units' current operational situation. The briefing covers the daily organization, operation, coordination, intelligence, and physical security aspect of the unit. It emphasizes information that may affect mission performance.

- Directing the SOP use. The S2/S3 section makes sure subordinate units receive and use current SOPs from the group headquarters.

Security

Security measures include—

- RAP. When RAP plans and SOPs are available, the S2/S3 section makes sure units follow them. FM 90-14 gives more information. The S2/S3 section reviews, updates, and coordinates rear area security and area damage control plans for all group units. The section updates ground, antiarmor, and air defense plans based on the threat level. The section also requests combat forces from higher headquarters by secure means. These forces counter hostile forces that threaten to prevent or hinder the mission.

- OPSEC. The S2/S3 section uses adequate programs for information and signal security. It also implements physical security and deception programs. The section—

- Establishes liaison with higher headquarters intelligence and security agencies.
- Denies essential elements of friendly information to the enemy.
- Confuses the enemy force in its attempt to estimate the course of action the group will take.

Reports

AR 220-1 provides guidance for preparing the following reports:

- Unit Status. The section receives a DA Form 2715 from each unit. The section checks the reports for accuracy and completeness. It then consolidates them and sends them to higher headquarters. Mark and discard all documents IAW AR 380-5.
- Group Status. The section consolidates subordinate unit reports into a group report. It then forwards the consolidated report to higher headquarters.

Communications

The section coordinates with other staff sections on communications matters. They identify communications equipment shortages and failures. They identify additional communications requirements. They also monitor stations for proper training and procedures. FM 11-23 has more details. Also, the section determines requirements for the group. FMs 11-50 and 24-1 have more information. The section allocates resources by need for secure equipment, remote equipment, FM radio use, equipment maintenance needs, and sole user circuit allocations.

Support Operations

Coordinate activities with the support operations section to minimize any potential adverse effect on the bulk petroleum and water mission. Plans for future operations may affect supply missions. The section coordinates plans with each unit and its supported customers.

Use of Smoke

The S2/S3 section requests smoke generators from the designated supporting smoke generator unit. Units

use smoke to conceal important combat service support areas. FMs 3-100 and 3-10-1 have more information Plan to—

- Use smoke blankets, hazes, and curtains to reduce visibility and to conceal troops and installations.
- Conceal lines of communication.
- Use smoke during darkness to assist in light discipline.
- Use smokepots and other portable devices. Use them when the threat of recognition and immediate attack is great.

Training Programs

The section establishes, coordinates, and monitors unit training programs.

Mission Essential Task Lists

The section prepares the METL for the group headquarters. It also provides guidance to subordinate units for METL development.

NBC Operations

NBC defense responsibilities include:

- NBC personnel in the section monitor, evaluate and provide guidance for group NBC defense training. They also advise the commander and staff of subordinate units' NBC defensive readiness. NBC personnel assist the S2 in conducting Intelligence Preparation of the Battlefield (IPB) to identify possible enemy NBC employment. With information received from higher headquarters, NBC personnel plot NBC hazard predictions and advise on possible courses of actions. Section II of Chapter 7 has more information on NBC defense. FM 3-3, 3-4, 3-5, and 3-100 have more information on NBC operations.

- Mission-oriented protective posture. The chemical officer recommends an appropriate MOPP level. MOPP should maintain a balance between the best combat effectiveness and the best NBC defense posture. The chemical officer determines a recommended MOPP level by considering threat level, soldier factors (type of work they are doing, fitness levels and so forth) and environmental factors. FM 30-4 gives information on MOPP.

Section VI S4 SECTION

MISSION AND RESPONSIBILITIES

The S4 section plans, coordinates, and supervises organizational supply, maintenance, and food service activities for subordinate units. This includes pertinent portions of the unit environmental stewardship program. Particular areas of environmental interest are management of hazardous materials and wastes in maintenance, food service and supply room operations, environmentally safe maintenance operations, and the unit recycling program. Also, the S4 officer is responsible for the execution of the command operating budget (COB).

PERSONNEL

Effective operation of the section requires identifying key people and understanding their primary duties and responsibilities. Key personnel include—

- Property Account Technician (CW3, 920A0). Provides advice and technical assistance on property books and equipment. Maintains the consolidated property book for separate companies and the organic headquarters company.

- Chief Mechanical Maintenance Logistics Sergeant (E9, 63Z50). Provides advice and technical assistance on all maintenance matters.

- Food Service Supervisor (E8, 92G50). Provides advice and technical assistance on food service. Advises on the proper use of all available food service resources.

- Senior Supply Sergeant (E8, 92Y50). Plans and coordinates maintenance activities throughout the command. Provides technical assistance to battalions on maintenance matters.

- Supply Specialist (E3, 92YI0). Assists the senior supply sergeant.

- Administrative Specialist (E4, 7IL10). Performs all administrative functions to include establishing and operating MARKS, and preparing correspondence for the section.

OPERATIONS

The section's major function is to provide assistance and guidance in internal logistics to the group's units. The section must consider the following factors as described below.

Technical Supply and Service Assistance

When the units begin receiving supplies and servicing their elements, the S4 section should monitor their

operations. They should check the requisition, procurement, storage, and distribution of supplies and equipment. The section distributes critical equipment according to priorities established by the group commander. Coordinate requirements for service with the group headquarters. When monitoring units, they should use AR 710-2 and FM 100-10 for guidance. They cover all materiel management procedures used by the units.

Maintenance

The subordinate units of the group send all maintenance reports to the S4 section. The section files them. The S4 section reviews them periodically to determine the number, type, and frequency of repairs. The S4 section also—

- Checks the units supported by the motor pool to make sure they are able to get vehicles and equipment repaired. Makes sure units perform scheduled services as required.

- Establishes and reviews environmental protection procedures in motorpool operations.

- Makes sure units complete equipment status reports correctly.

- Makes liaison visits with group units. Advises them on ways to improve their readiness.

- Contacts direct support repair parts facilities to follow up request for parts for non-operational equipment.

- Uses DA Pamphlet 738-750 and FM 100-10 for guidance in setting up the monitoring procedures.

Food Service

The S4 section monitors Class I availability and accountability. The section checks dining facilities for sanitary preparation and proper storage. The S4 section monitors dining facility operations in the support group units and ensures facilities and operations are safe and environmentally sound. FMs 10-23 and 10-26 give more detailed guidance.

Command Operating Budget

The S4 officer executes the COB. Units submit fiscal requirements to the S4 officer. After a budget review by the commander, S2/S3 officer, S4 officer and support operations officer, the S4 allocates funds to

each battalion level and separate company unit. He then monitors the status of funds to ensure availability

and efficient use. The section can use FORSCOM Program Budget Guidance as a guide.

Section VII SUPPORT OPERATIONS SECTION

MISSION AND RESPONSIBILITIES

The support operations section coordinates, manages, and synchronizes all bulk petroleum and water in the theater or corps. This section has four branches. The support operations section provides the group commander with information on current petroleum and water operations. The section is responsible for:

- Development of the concept of the operations for both OPODs and OPLANs.
- Coordination with host nation support organizations in bulk petroleum and water support elements.

PERSONNEL

Effective operation of the section requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel include—

- Petroleum Distribution Sergeant (E9, 77F50). Assists the support operations officer. Senior non-commissioned officer in section responsible for the continued education of the junior non-commissioned officers.
- Administrative Specialists (E4, 71L10; E3, 71L 10). Performs all administrative functions to include establishing and operating MARKS, and preparing correspondence for the section.

ORGANIZATION

The support operations section has four branches. The following paragraphs discuss each branch. Each branch chief carries out functional supervision of each branch under the support operations officer's supervision.

Petroleum Plans, Requirements, and Distribution Branch

This branch plans, directs, coordinates, and supervises requirements, distribution, and movements activities for US Army inland petroleum distribution systems and operational projects.

Responsibilities. The petroleum plans officer (Major, 92F00) has several responsibilities related to supervise operations. His responsibilities are to—

- Formulate plans and programs for receipt, storage, and distribution of bulk petroleum products.
- Plan and conduct operations in an environmentally-safe manner within the scope of the tactical situation.

- Coordinate these plans with the command and the area petroleum office.

- Provide the support operations officer with necessary data to advise the group commander and other staff elements of your plans and activities.

- Coordinate with the JPO and DFR personnel for delivery of bulk petroleum into the Theater.

- Coordinate with the Class III (B) accountable office at the theater MMC or the corps material management office in contingency operations or operations other than war.

Personnel. Effective operation of the branch requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel include—

- Petroleum Officer (Captain, 92F00). Directs, coordinates, and supervises activities pertaining to inland petroleum distribution operations.

- Petroleum Operations Sergeant (ES, 77F50). Assists the petroleum officer.

- Petroleum Distribution Supervisor (E7, (2 each) 77F40). Assist the petroleum officer.

- Petroleum Inventory Control Specialists (E5, (2 each) 77F20; E4, (2 each) 77F10). Receives stock status reports from subordinate units. Maintain availability data and provide information on the stock position. These specialists compile, analyze, and evaluate operational data on the supervised systems.

- Administrative Clerk (E3, 71L 10). Performs all administrative functions to include establishment and operation of the MARKS, and preparation of correspondence for the section.

Operations. The branches major function is to plan the distribution of petroleum supplies on the battlefield. The branch operates as follows:

- Petroleum Plans and Requirements. The section determines subordinate units resupply requirements and forwards them to the petroleum division, of the EAC MMC. It also coordinates the loading of bulk petroleum and directs the distribution to subordinate units in organic bulk petroleum transportation assets. AR 710-2 has more guidance.

- Plans and Orders. The branch maintains petroleum requirements estimates. It prepares plans and orders in

coordination with other staff officers. It also maintains operation records. Chapter 2 and 3 of AR 703-1 discuss planning and estimating petroleum requirements. FM's 10-13, FM 101-10-1, and the Unit Supply Update have more information.

- **Operations of the Pipeline and Terminal System.** District dispatchers from the petroleum pipeline and terminal operations battalion send daily pumping reports. Reports and logistical plans provided by higher headquarters determine petroleum requirements and distribution. The branch monitors the pipeline and terminal system to see if it is following guidance from higher headquarters. Coordinate any changes with higher headquarters. FM 10-67 gives helpful information on pipeline system management.

- **Petroleum Inventories.** The petroleum units inventory stocks. The branch reviews the inventory results and forwards them to the MMC. Chapter 5 of FM 10-67 covers inventory management.

Water Plans, Requirements, and Distribution Branch

This branch plans, directs, coordinates, and supervises requirements, distribution, and movements activities for bulk water production and distribution systems. Depending on the operational situation, it ensures operations are conducted with minimal environmental damage.

Responsibilities. The water plans officer (Major, 92F00) supervises branch operations. There several vital functions he must supervise to make the branch successful, He—

- Formulates plans and programs for bulk water production, storage and distribution. This includes planning operations to comply with applicable national, state, local and host nation environmental laws.

- Coordinates these plans with the theater army to insure synchronization with all forces.

- Provides the support operations officer with necessary data to advise the group commander and other staff elements of the sections plans and activities.

- Coordinates with the medical command to ensure testing of water production sites for potability.

Personnel. Effective operation of the branch requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel include—

- **Water Plans Officer (Captain, 92F00).** Directs, coordinates, and supervises activities pertaining to bulk water production and distribution operations.

- **Water Distribution Supervisor (E7, 77W40).** Assists the water officer in the bulk water distribution plan for the theater.

- **Water Treatment Sergeant (E6, 77W30).** Ensures potable water quality. Advises the production detachments on matters pertaining to quality assurance.

- **Administrative Specialist (E4, 71L10).** Performs all administrative functions to include establishing and operating MARKS, and preparing correspondence for the section.

Operations. The branch's primary function is to plan the distribution of potable water on the battlefield. The branch operates as follows:

- **Water Plans and Requirements.** The branch determines supply requirements of subordinate units and forwards them to the water operational division, of the EAC MMC. It also coordinates bulk potable water production and directs the distribution to subordinate units in organic bulk water transportation assets. FM 10-52 has more information.

- **Plans and Orders.** This branch plans and coordinates the subsurface water detection, well drilling and construction, repair, and water support facility maintenance.

Transportation Branch

This branch directs, coordinates, and supervises distribution and movements of bulk petroleum and water. It is concerned with bulk petroleum movement by means other than pipeline.

Responsibilities. The group movements officer (Captain, 88B00) supervises the branch operations by making sure the branch successfully completes key functions. The group movements officer—

- Coordinates, directs and manages transportation assets for the movement and distribution of intra-theater bulk petroleum and water.

- Develops wartime plans for programming the movement of bulk petroleum and water by means other than pipeline.

- Plans operations to comply with all national, state, local and host nation environmental laws.

- Ensures operations are conducted to minimize environmental damage within the scope of the tactical situation.

- Plans and executes emergency deployment readiness exercises, command post exercises, and field training exercises.

Personnel. Effective operations of the branch requires identifying key personnel and understanding their

primary duties and responsibilities. Key personnel include—

- Staff Movements Sergeant (E7, 88N40). Assists in planning and directing branch activities. Coordinates with appropriate transportation personnel for the movement of fuel by means other than pipeline.

- Movement Specialists (E4, 88N10; E3 88N10). Maintain records and prepares reports of fuel moved by transportation means other than pipeline.

Operations. The branch coordinates bulk petroleum and water transportation. Group headquarters determines petroleum and water requirements and distribution needs. It then sends instructions to ship by air, rail, highway, or water. The group movements officer helps coordinate the preparation of fuel or water for the selected transportation mode. All quantities should be checked against requirements received from the group headquarters. FM 55-10 gives guidance on movement management. FM 55-50 gives information on transportation. FM 100-10 gives information on air, rail, highway, and water transportation.

Facilities Branch

This branch develops and prepares plans for construction of the IPDS, TWDS and selected operational projects in coordination with the petroleum and water division, of the EAC MMC, and engineer construction units. Plans in anticipation of complying with all applicable federal, state, local, and host nation laws.

Responsibilities. The group engineer's overall responsibility is to effectively supervise the various key functions of his branch. The group engineer (Major, 21D00) develops and prepares plans for—

- Pipeline routes, new pipeline construction, and expansion.

- Develops plans for preparing the site of tactical petroleum and water systems and rehabilitation of existing pipelines.

- Develops plans for constructing terminals and storage facilities.

- Coordinates with the engineer command for construction of water storage and production sites.

- Coordinates with both petroleum and water branches for engineer support requirements.

Personnel. Effective operation of the branch requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel include—

- Senior Construction Supervisor (E7, 51H40). Acts as a liaison with engineer construction personnel to ensure plan compliance.

- Plumber/Pipefitter (E4, 51K 10). Inspects pipeline and terminal facilities of the subordinate units.

- Technical Engineer Specialist (E4, 51T 10). Prepares drawings for pipelines, terminals, and storage facilities.

- Administrative Specialist (E4, 71L10). Performs all administrative functions to include establishing and operating MARKS, and preparing section correspondence.

Operations. This section is responsible for pipeline design, construction, maintenance, expansion, and inspection. Additionally, the section coordinates engineer support requirements with the engineer command. Also provides guidance on the refurbishment of existing petroleum and water systems to include wells, pumps and facilities.

Construction

The branch drafts plans for the pipeline system. The plans show the projected expansion of the system. They also give other facts required for command overview. The branch then coordinates with the petroleum plans and requirements branch to make any adjustments. After coordination, the branch must prepare requests for engineer support. It then determines man-hours, equipment, and materials required. TM 5-343 has more guidance.

Maintenance and expansion

The branch checks to make sure that proper maintenance is being performed on the pipeline system. Petroleum and water units perform organizational and direct support maintenance. An engineer pipeline construction support company performs the general support maintenance. TM 5-343 gives guidance on monitoring procedures.

Inspection

The branch inspects the pipeline system to make sure that it is being maintained efficiently. It makes sure safety and environmental precautions are being followed. It tests fire extinguishers. The branch also checks to see additional ones are on hand. It also checks suction and discharge pressures of operating pumps. The branch prepares inspection reports within the time specified by the commander. The reports give all information required by higher headquarters. Appendix K of FM 10-18 gives some helpful points to use to inspect petroleum facilities and equipment.

Section VIII PETROLEUM LIAISON SECTION

MISSION

The petroleum liaison section provides liaison service between supported units, host nation petroleum activities and the petroleum requirements branch of the group. Also, the section implements the logistics assistance programs.

RESPONSIBILITIES

The petroleum liaison officer (Major, 92F00), supervises this section. He has overall responsibility for making sure the section conducts its liaison mission properly. He—

- Provides direct coordination channels between supported units (USA, USAF, USMC, and USN forces ashore), host nation activities and the group for approved petroleum logistics assistance programs.
- Facilitates coordination of environmental regulations and concerns among supported units, host nation units and higher headquarters.
- Updates status through the petroleum group to the EAC MMC.
- Coordinates through the Liaison Section for host nation support.
- Serves as liaison between allied forces requiring petroleum logistics assistance support.
- Tracks key construction and rehabilitation projects.

PERSONNEL

Effective operation of the section requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel include—

- Petroleum Supply Sergeant (E8, 77F50). Assists the liaison officer in the coordinating and processing of petroleum logistics assistance projects.

- Petroleum Surveillance Sergeant (E7, 77L40). Provides liaison with host nations to insure facilities meet quality standards requirements.

- Petroleum Supply Sergeant (E6, 77F30). Assists the chief petroleum sergeant and maintains records of ongoing and completed petroleum logistics assistance projects.

- Administrative Specialist (E4, 71L10). Performs all administrative functions to include establishing and operating MARKS, and preparing section correspondence.

OPERATIONS

The section's major function is to provide liaison among several agencies. The commander and his staff must consider the following factors as described below.

Maintain Liaison

This section maintains staff and operational liaison between appropriate host nation agencies and supported units for implementation of petroleum logistics assistance projects. FM 101-5 has more on liaison procedures.

Provide Technical Information

Personnel in the section establish and disseminate technical guidelines for subordinate units. They evaluate all information to make sure it is relevant and accurate. FM 10-67 gives guidance on petroleum management procedures.

Section IX QUALITY SURVEILLANCE AND SAFETY SECTION

MISSION

This section sets up and supervises the petroleum quality surveillance and safety program. The section monitors laboratory operations and prepares and distributes safety directives. The section provides technical assistance in the operations of all petroleum laboratories. It also supervises the development of safety directives for subordinate battalions.

RESPONSIBILITIES

The quality surveillance and safety officer (Captain, 92F00) manages this section. He also provides for command and control of base petroleum laboratory operations.

PERSONNEL

Effective operation of the section requires identifying key personnel and understanding their primary

duties and responsibilities. Key personnel for this section include—

- Petroleum Surveillance Sergeant (E7, 77L40). Coordinates the technical operations of base and mobile laboratories.
- Safety NCO (E7, 77F40). Develops and disseminates safety directives for the subordinate units of the group. Trains personnel in correct safety techniques and inspects to make sure established directives have been followed.
- Quality Surveillance Specialist (E4, 77L10). Assists the quality surveillance supervisor.
- Administrative Specialist (E4, 71L 10). Performs all administrative functions to include establishing and operating MARKS, and preparing section correspondence.

OPERATIONS

The section's major function is to provide quality surveillance and safety functions for the units in the group. The section must consider the following factors as described below.

Laboratory Operations

The section monitors the work of the laboratory personnel of the base petroleum laboratory assigned to the section and to the laboratory branches in the petroleum pipeline and terminal operating battalions and petroleum supply battalions. Laboratory personnel will conduct the required tests. They file and maintain the results as outlined in FM 10-70. Branch personnel must

watch laboratory personnel to make sure that they follow correct laboratory procedures and do not attempt shortcuts (Appendix A gives metric conversions). Branch personnel check to see that laboratory personnel follow procedures outlined in the ASTM manual, FTM 791, and FMs 10-70 and 10-72. FM 10-67, Chapter 7, gives information on surveillance.

Quality Surveillance Program

The section manages the quality surveillance program. This program insures POL products meet specified physical and chemical properties. Section soldiers do many duties. They determine sampling and testing procedures for bulk and packaged products. They determine reporting procedures for supported units. They establish and monitor transportation, handling, and storage procedures for bulk and packaged products. They determine disposition of off-specification products. They identify sources of potential contamination and deterioration of product. They provide advisory technical assistance to military activities in the battalion area. They also monitor procurement inspections of petroleum products procured in the battalion area.

Safety Directives

Section personnel prepare and send out directives on tire and health hazards to all subordinate units. It makes periodic visits to subordinate units to make sure the units are complying with all current safety directives. Chapter 8 of FM 10-67 gives guidance on safety functions.

Section X PETROLEUM LABORATORY BRANCH

MISSION

This branch analyzes petroleum products received and stored in operating units. It also provides area petroleum laboratory support as directed. This branch operates a base petroleum laboratory. This laboratory is a fixed installation performs complete specification and procurement acceptance testing of petroleum products. Details on the operation, maintenance, and layout of base laboratories are in FM 10-72.

RESPONSIBILITIES

The petroleum laboratory officer (Lieutenant, 92A00) directs the petroleum laboratory in inspecting and testing petroleum products.

PERSONNEL

Effective operation of the section requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel for this section include—

- Petroleum Laboratory Supervisor (E7, 77L40). Supervises the performance of standard physical and chemical tests on petroleum products. Evaluates test results to make sure they comply with federal and military specifications.
- Petroleum Surveillance Sergeant (E6, 77L30). Assists the petroleum laboratory supervisor. Screens all completed test results for correctness and completeness.

- Petroleum Laboratory Sergeant (E5, 77L20). Directly supervises the petroleum laboratory specialists. Provides on-site assistance in petroleum testing.
- Petroleum Laboratory Specialists (E4, 77L10; E3, (7 each) 77L10). Perform standard physical and chemical tests on fuel handled through the battalion pipeline distribution system.
- Administrative Clerk (E3, 77L10). Performs all administrative functions to include establishing Modern Army Records Keeping System (MARKS), and preparing branch correspondence.

OPERATIONS

The branch sets and maintains rules of laboratory conduct and techniques. These rules ensure reliability, safety, and environmental protection. The branch ensures sufficient laboratories exist to test all petroleum products in the command in a reasonable time. Branch personnel perform preventive and corrective maintenance on laboratory equipment. They must know how to prevent fires and extinguish them. Appendix A provides metric conversions. FMs 10-67 and 10-72 give information for laboratory operations.

Tests

The branch uses the petroleum products log analysis report to record the quality clearance. It also makes arrangements for line sampling and testing arrangements for marking interface progress and position. The branch transmits instructions for interface testing and disposition at take-off terminals. Branch personnel inspect all petroleum products at intervals set in MIL-HDBK 200. They conduct tests according to the method prescribed in the product specifications. They should also follow all details of the test method and appropriate safety precautions as given in STP 10-77L14. When no ASTM standards exist, personnel should follow

Federal Test Method 791. AR 710-2, FM 10-67, and STP 10-77L14 give more guidance.

Evaluation of Test Results

The branch evaluates tests that do not meet the specification requirements against use limits by methods given in MIL-HDBK-200 for the evaluation of the product not meeting specifications and the nature of contamination. The evaluation should also include suggestions for preventing future contamination or deterioration and recommendations for reclaiming or disposing of the product.

Records and Reports

Branch personnel maintain petroleum samples, a laboratory logbook, and a work assignment notebook. They maintain copies of the petroleum products log analysis report. They also prepare copies of product disposition recommendations. The branch sends all forms to the agent that requested petroleum products. The branch reports off-specification products to the Defense Fuel Supply Center through the petroleum group.

Coordination with Operating and Customer Units

The branch makes recommendations, through appropriate channels, for the alternate use, reclamation, or disposition of off-specification products. The branch makes sure units inspect POL products as quality surveillance problems arise. It directs inspection of petroleum products procured in the theater. It also provides technical assistance. The lab provides analysis services for the Air Force and Navy, as required. When the branch receives changes to specifications from the JPO, it reviews them and makes adjustments to existing policies and procedures. FM 10-67 gives more information.

Section XI COMMUNICATIONS SECTION

MISSION

The mission of the communications section is to coordinate installation, operations and management of information systems in support of group headquarters communications facilities. The section provides—

- FM Radio (SINCGARS).
- AM HF Radio.
- Group Mobile Subscriber User Equipment.
- Message Center Service.

- Computer Installation and Configuration
- CEOI production with RBECS
- Field wire and telephone Service
- NCS for AM and FM radio nets.

RESPONSIBILITIES

The signal officer is responsible for all group information systems (both tactical communication and

commercial computer systems). He supervises the communications branch. He also coordinates with supporting signal units for entry into the common user systems and preparation of the battalion CEOI.

PERSONNEL

Effective operation of the section requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel include—

- Tactical Communications Chief (E8, 31U50). The senior enlisted advisor to the section officer. Primary responsibility is tactical communication liaison with the EAC Support Command and subordinate battalion elements. Prepares the group CEOI using RBECS. Supervises all enlisted soldiers assigned to the communications section.

- Tactical Communications Chief (E6, 31U30). Primary responsibility is the group headquarters internal communications. Responsible for all group headquarters information systems (tactical communications and computers). Special emphasis is on NCS operation of MSE and AM high frequency systems. Additionally, responsible for installation and configuration of group computer systems.

- Single Channel Radio Operator (E4, 31C 10). Acts as the NCS for the battalion SINCGARS/EPLARS and AM high frequency radio command/ops nets.

- Signal Information Service Specialists (2 E4, 31U10). Install and maintain group MSE, SINCGARS, and AM HF digital and voice equipment. Responsible for installation and configuration of battalion computer systems.

- Signal support system specialist (E3, 31U10). Installs and maintains the group telephone and wire system. Operates the group message center once systems are installed.

OPERATIONS

The section is responsible for the information system integration plan; SINCGARS; AM HF radio; MSE interface equipment; message center; computer installation and configuration; RBECS-CEOI construction; field wire and switchboard; and the radio net control station (NCS).

SINCGARS

The unit is equipped with the AN/VRC-90 SINCGARS FM radios as shown in figure 3-2, page 3-18. SINCGARS is a new family of VHF-FM radios that replace the old FM AN/VRC-12 series of radios. These radios provide the group with a tactical secure FM radio net for internal

command and control and external base cluster defense coordination. These radios are designed for simple, quick operation using a 16 element keypad for push-button tuning. They are capable of short-long range operation for voice or digital data communications. The planning range is 8-35 kilometers. They operate in a jam-resistant, frequency-hopping mode that can be changed as needed. The NCS utilizes the AN/VRC-92 radio that is a dual long range system also capable of operating as a retrans system as mission dictates.

AM high frequency radio

The group will employ the AN/GRC-193A HF radio shown in figure 3-3, page 3-19. The AN/GRC-193 is a rugged, tactical, vehicular/base station HF radio set. The set's high power (100-400 watts) makes it capable of long range communications necessary to link all pump stations in the AM HF pipeline net that may span in excess of 300 miles. (The AN/GRC-213 low power AM HF radio is unacceptable for use with the omnidirectional coverage NVIS antenna, which requires maximum power output.) The AN/GRC-193 radio set can be mounted in a wheeled vehicle or installed in a fixed location, such as a building or tent. When installed in a fixed location, a power supply capable of providing 24 to 32 volts DC must be used or battery charger PP-145 1/G or similar power supply. To utilize this system in the radio teletype mode the KG-84 and computer terminal, AN/UGC-144, is necessary. Secure voice requires a KY-68. Both secure and radio teletype operation is mandatory for pump station operation.

Mobile subscriber interface equipment

The supporting signal unit will provide connectivity to the battalion to provide an interface to the theater digital or corps mobile subscriber network. Users access the MSE network by fixed subscriber terminals or mobile subscriber terminals. Figure 3-4, page 3-20, depicts these access points. The fixed subscriber terminals are hard wired to a SEN through a junction box, J-1077. The three fixed instruments are the DNVF, TA-1035; the DSVF, KY-68; and the communication terminal, AN/UGC-144. The MSRT is the AN/VRC-97. The MSRT, which consists of a very high frequency radio and a digital secure voice terminal (KY-68), in a vehicle-mounted assembly. It interfaces with the MSE system through a RAU. As long as the radio unit has line-of-sight contact with the RAU, it is connected to the MSE area system. The operational planning range is 15 kilometers from any RAU.

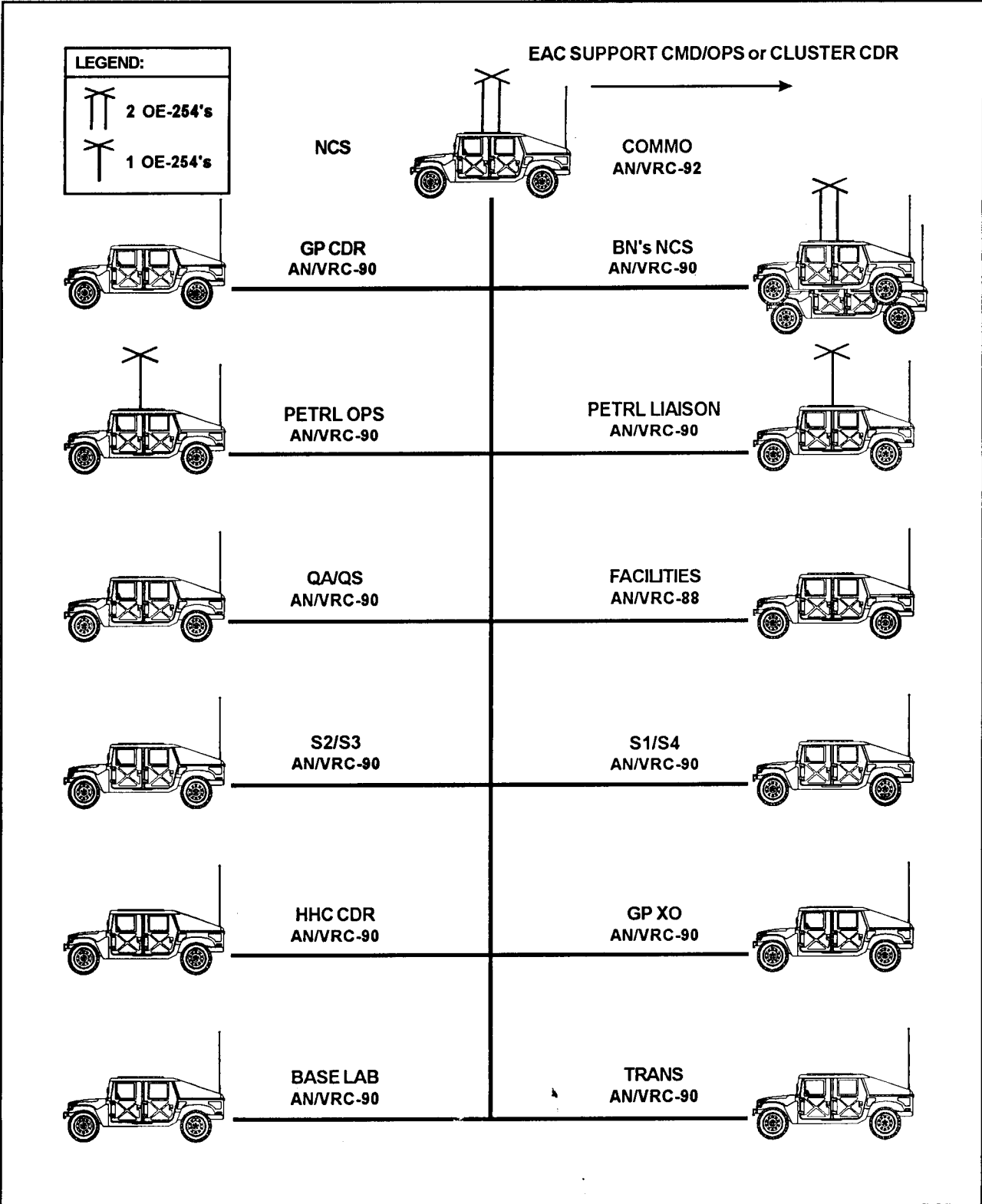


Figure 3-2. Petroleum group command/ops net (SINGARS)

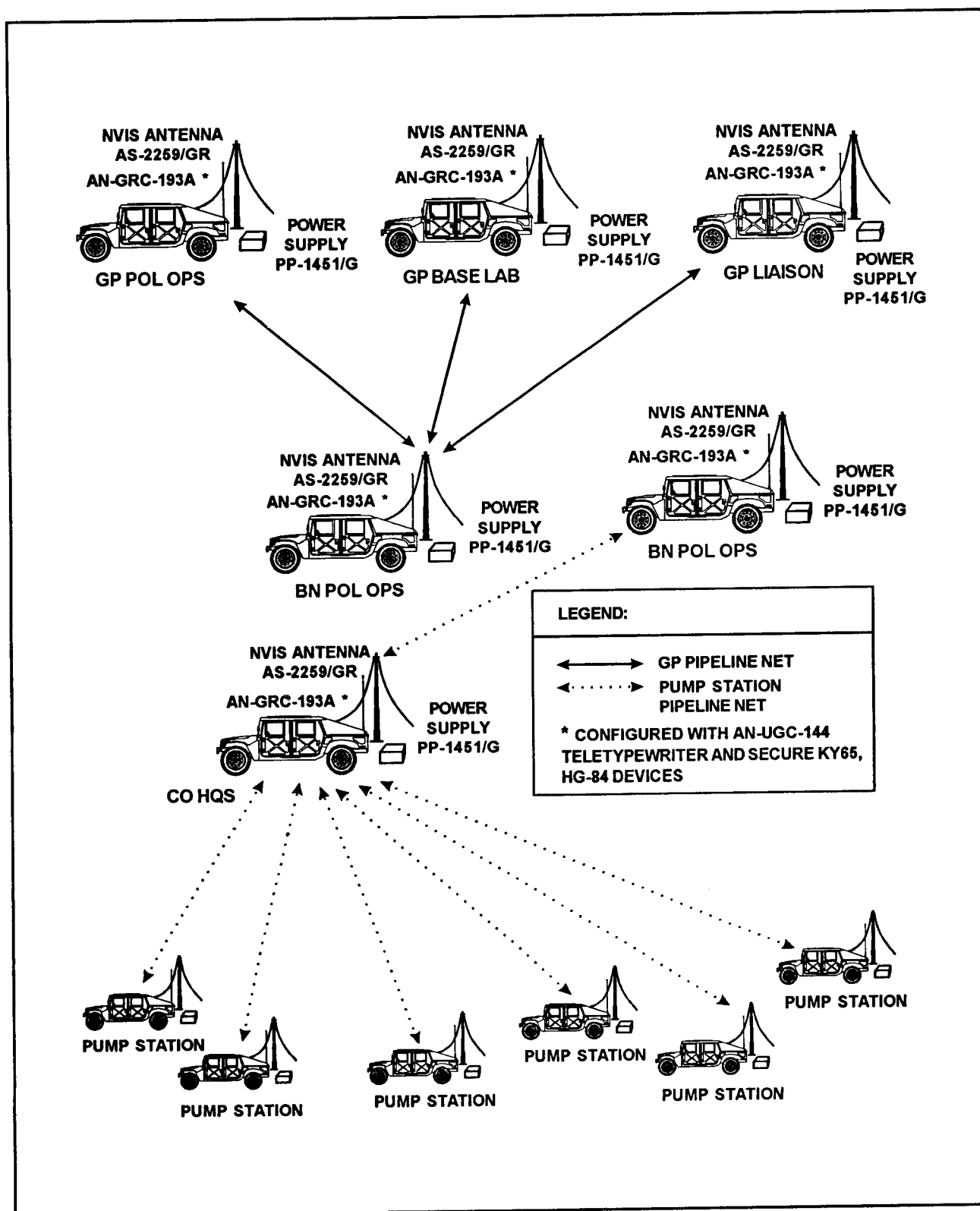


Figure 3-3. Petroleum group pipeline nets (AM HF radio)

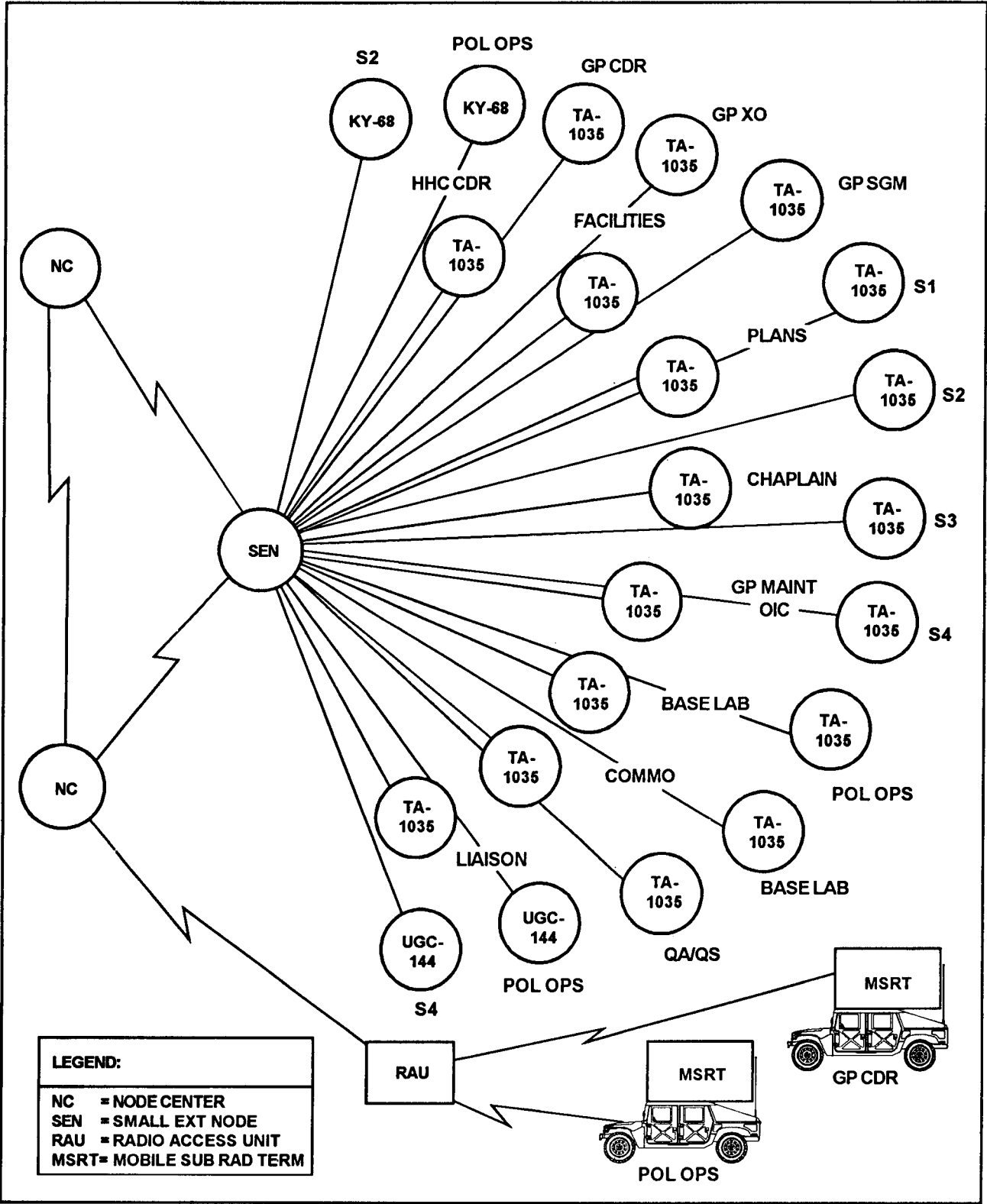


Figure 3-4. Petroleum group mobile subscriber interface

Message center

Message center operations orient on the AN/LJGC-144 computer terminal, which allows access to the DMS, DDN, and MSE network. Both the S4 and POL Ops sections are authorized these terminals as shown in figure 3-4. These terminals are user - owned and - operated message terminals. Through menu-driven screens and passwords, it allows composition, transmission, and formal record traffic receipt. Each terminal has a KY-68 DSVT that provides autodial encryption capability. Section personnel, with the assistance of the communication section, process incoming and outgoing messages according to the priorities assigned. They will observe the following precedence, time frames and procedures per FM 24-17 and AR 25-11.

- Flash—less than 10 minutes
- Immediate—within 30 minutes
- Priority—within 2 hours
- Routine—within 6 hours

Computer installation and configuration

The communication section is responsible for all group information systems to include computers and peripheral devices. Responsibilities include—

- Ensuring all computer systems are accredited for the appropriate classification and networking level.
- Properly configuring all computer communication devices (modems).
- Installing, maintaining and providing operational guidance on battalion software.

RBECS/CEOI construction

The communication section creates and maintains CEOI databases tailored to specific missions. Using RBECS, the section is capable of generating processing, displaying, editing, printing, storing and transferring CEOI information. RBECS also processes the frequency hopping data, (TSK, HOPSET, NET ID's), for the SINCGARS and other radio systems. RBECS provide the capability to selectively compartmentalize information based on need and transfer the data to ANCD, and ECCM fill devices (MX-10579 and MX 18290). RBECS requires formal training.

Local field wire and switchboard

The communication section will devise and implement a wire net plan. The plan will identify each user telephone connected to the switchboard (SB-3614) or MSE/TRI-TAC switch. The plan will show where the wire is buried or installed overhead. Additionally, the

wire team will designate a wire team to coordinate telephone installation with the supported units and identify manpower and equipment requirements. Users are responsible for wire installation and connection to the switchboard. Section personnel do the following:

- Test wire before installation.
- Connect and lay the wire according to the wire net plan.
- Lay the lines by the shortest distance allowed by terrain.
- Secure lines at their start point and at any point where they change direction or run into construction.
- Tag wire according to FM 24-20 and the CEOI.
- Make maximum use of terrain and natural vegetation to conceal wires.
- Make sure that construction techniques meet the requirements of FM 24-20.
- Check all splices to make sure they are correct and taped.
- Make preinstallation switchboard checks.
- Install and ground the switchboard in an area that protects the switchboard from moisture.
- Attach telephone lines and trunk connections at the switchboard.
- Label the switchboard according to the telephone directory.
- Keep wire splices clear of standing water and maintain a correct amount of slack in the wire.
- Check the wire periodically to make sure no one has tampered with it.
- Recover field wire without damaging it. FM 24-20.
- Wind wire evenly on reels with enough slack at the start to allow easy testing and servicing.

Radio communications net

There are twelve SINCGARS radios dispersed throughout the company (figure 3-4). Section personnel establish the radio communications net for these radios. When performing their duties, they should—

- Ground the equipment.
- Check at first light (when the station is set up during darkness) to make sure it is concealed. If it is not, take steps at once to conceal it.
- Make initial entry into the designated net within the time frame set by the commander:
- Use operating signals, prosigns, and authentication when required by the NCS.
- Process messages, requiring coding or decoding, promptly and without error according to FM 24-18.

- Adhere to all COMSEC procedures.
- Follow the guidelines in FM 21-2 when setting up the radio net.

NCS

The group NCS operates according to the procedures outlined in FM 24-18. Section personnel—

- Open and close the net.
- Control transmission.

- Authenticate and clear traffic within the net.
- Direct the net.
- Correct errors in operating procedures.
- Give or deny permission for stations to enter or leave the net.
- Impose or lift listening silence.
- Maintain net discipline.

Section XII COMPANY HEADQUARTERS

MISSION

The company headquarters provides command, control, discipline, training, personnel administration functions, and logistics functions for the soldiers in the company. It also coordinates with higher headquarters and staff sections to accomplish given missions.

RESPONSIBILITIES

The company commander (Captain, 92F) is responsible for the leadership, welfare, discipline, and training of all the soldiers in the company. He—

- Sets priorities and coordinates present and future missions of the company.
- Directs and supervises all technical operations and support activities that impact the headquarters operations.
- Ensures all required reports and data are prepared and transmitted to staff elements as required.
- Conducts safety and environmental risk assessments for each operation.

PERSONNEL

Effective operation of the company requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel include—

- First Sergeant (E8, 77F5M). Assists the commander in supervising operation of the company headquarters. Is responsible for the leadership, welfare, and training of the enlisted soldiers assigned to the company.
- Supply Sergeant (E6, 92Y30). Requisitions, receives, stores, accounts for, and issues all classes of supply (except class IX) for the company. Manages hazardous material supply items IAW locally established procedures and regulations.

- Food Service Sergeant (E6, 92G30). Serves as the food service operations NCOIC within the company. Implements a Class I support plan to support company operations. Makes sure the plan includes a risk assessment of the environmental impact of food service operations (particular areas of concern are solid waste disposal, and fuel handling procedures for burners). Trains subordinates on environmental protection procedures and safety procedures.

- First Cook (E5, 92G20). First line supervisor for all assigned cooks. Assigns duties to cooks and develops production schedules.

- Unit NBC Sergeant (E5, 54B20). Provides unit decontamination support to the company. Supervises NBC personnel training. Maintains the company's organic NBC equipment and prescribed load list. Manages hazardous materials IAW locally established procedures and regulations.

- Personnel Administrative Sergeant (E5, 75B20). Performs all administrative functions for the company. Inputs personnel actions using Standard Installation/Division Personnel System (SIDPERS).

- Light-Wheeled-Vehicle Mechanic (E4, 63B10). Augments the subordinate unit assigned to provide organizational maintenance. Manages hazardous materials IAW locally established procedures and regulations. Performs maintenance IAW locally established environmental protection regulations.

- Armorer/Supply Specialist (E4, 92Y10). Maintains the unit small arms and assists the supply sergeant. Manages hazardous materials IAW locally established regulations.

- Cooks (E4, 92G10; E3, 92G10). Cook and serve for unit personnel. Maintain and sanitize assigned equipment.

COMMAND AND CONTROL

The headquarters' major function is to provide supervision and direction to the overall operation of the company. The commander must consider the following factors as described below.

Unit Defense

The S2/S3 section establishes overall defensive plans for the group and subordinate units. The company then plans and executes the company's defense within higher headquarters' guidelines. FM's 21-75 and 100-5 provide more information for establishing defenses. For an effective defense, the company must:

- Prepare and distribute the company defense plans to sections.
- Make sure unit defenses include observation posts and interlocking fields of fire. They should also include adequate communications, minefield, and antiarmor barriers.
- Hold rehearsals to make sure all elements of the plan are coordinated.
- Hold rehearsals for the quick reaction force.
- Check to see that range cards, sector sketches, and defensive fire plans are prepared.
- Assign a final protective line or principal direction of fire for each machine gun.
- Submit to the battalion commander reports of intention to lay minefield. Also report to him the start and completion of the laying of the minefield. FM 20-32 gives more information.
- Check to see that artillery and mortar final protective fires are determined. Make sure they have been coordinated with the designated support activity.

Camouflage

Camouflage is one of the most critical means of defense for combat service support units. Camouflage should protect the unit from detection from the air and the ground. The unit should take care to use all available natural and man-made devices to camouflage its site by using approved techniques. The company leadership should constantly evaluate camouflage for its effectiveness. FM 5-20 gives helpful information on camouflage techniques.

Field Sanitation

A field sanitation team performs the sanitation duties for the company. An NCO from within the headquarters monitors the work of the team. He checks all

sections to make sure they are following all sanitary procedures. He must also make sure —

- Steps are taken to control insects. Disease-bearing animals and other threats to sanitation should also be controlled.
- Field sanitation standards comply with the regulations and policies set forth in a field sanitation SOP.
- The field sanitation team is properly trained and coordinates with appropriate agencies for help.
- The company has the prescribed amount of water-purification materials on hand.

Maintenance

One light-wheeled vehicle mechanic is assigned to the company. He augments the unit assigned to provide organizational maintenance. He assists operators with required operator-level maintenance. He assists in performing preventive maintenance checks and services. He also follows the appropriate technical manuals. He should —

- Provide limited operator and organizational maintenance support to the company.
- Maintain equipment safely and IAW locally established environmental protection regulations.
- Ensure proper use of tools, and insure proper test equipment maintenance.
- Ensures all maintenance deficiencies are identified and recorded. Reports maintenance requirements above operator-level to the supporting maintenance activity.
- Assist the supporting unit's maintenance personnel with the maintenance program to include organizational-level maintenance, drivers' training program, oil analysis program, and other programs as directed.

Medical Support

The company commander is responsible for coordinating medical support. FM 8-10 gives guidance on medical support. The company commander must make sure —

- Policies and procedures are current.
- Proper medical coordination is made with higher headquarters.
- Personnel receive medical aid during any unit operation.
- Emergency aid and unscheduled medical support are available during day-to-day operations. FM 21-11 gives more information.
- Ensure appropriate number of trained combat life savers. The commander must ensure qualified personnel have all required Class VIII equipment available.

Response to Ground Attacks

When there is a ground attack, the headquarters section notifies all personnel to occupy their established defense positions. (See the company defense plan.) They notify higher headquarters of the situation by secure means. When necessary, they commit rear area protection personnel from the appropriate designated unit. They will assist in repelling, destroying, or capturing the infiltrating force. The company should request additional support such as field artillery, Army aviation, and close air support as required. They request this support through the S2/S3 section of the next higher headquarters.

Physical Security

The commander checks physical security measure enforcement. He strictly controls restricted-area access. He ensures dismount points are set up and manned. Observation posts should be positioned around the area as appropriate. The commander makes sure personnel are assigned camouflaged positions along the perimeter. He makes sure weapons, ammunition, and explosives are physically secured. FM 19-30 covers physical security planning. The commander uses it and AR 190-11 to monitor physical security.

Captured Enemy Personnel and Material

The company must process captured enemy soldiers and equipment properly. The commander makes sure soldiers do the following when processing captured enemy soldiers:

- Disarm enemy personnel.
- Segregate the prisoners by status, rank, and sex.
- Give wounded personnel lifesaving and life-sustaining medical treatment. Evacuate them to the nearest medical facility.
- Search prisoners for concealed weapons and for documents of intelligence value.
- Keep prisoners silent.
- Tag, safeguard, and move all equipment and documents to the rear or to the group headquarters. FM 34-1 gives more information. Tags should also state if documents or equipment were found on the prisoner. Under no circumstances may a soldier alter documents and equipment or keep them as souvenirs. Make sure operations are within the limits set forth in FM 19-40 and FM 27-10, Chapter 3.
- Do not give prisoners comfort items. They keep safety items such as their helmet and protective mask.

- Treat all prisoners according to the Geneva Convention provisions. FM 27-10 gives more information. Transfer prisoners to the nearest military police activity as soon as possible.

ADMINISTRATIVE AND LOGISTICAL SUPPORT

One of the key responsibilities of the company headquarters is to provide personnel and administrative support for the soldiers in the company. The company considers the following factors as described below.

SIDPERS Input

The personnel administrative specialist inputs all personnel administrative data using SIDPERS transactions. He provides data to the group headquarters S1 section by secure means. DA Pamphlet 600-8-1 gives guidance. Information required includes —

- Casualty reports.
- Personnel replacement requests.
- Promotion recommendation.
- Disciplinary actions.
- Award requests.
- Other administrative data required for unit support.

Mortuary Affairs

When soldiers in the unit are killed in action, it is the company's responsibility to evacuate the remains to the nearest mortuary affair teams providing area support. If remains are unrecoverable due to tactical or logistical limitations, report their location to the EAC Support Command, who will coordinate for recovery with the nearest mortuary affairs team. Soldiers recovering the remains will try to make initial identification. They will do this from articles found on or near the body, or they will try to have someone who knew the deceased complete a statement of recognition. They will use a record of personal effects form to record any personal effects discovered with the remains. Company soldiers will assist mortuary affair teams by evacuating remains and personal effects to the closest supporting collection point. The company will prepare and submit a report on unrecovered remains indicating how many remains there are, their location, and why they were not recovered. FMs 10-63 and 10-297 and the 92M trainer's guide give more guidance.

Food Service Support

The food service section provides all Class I support to the company. They coordinate with the theater

ASG or CSG to establish an account at the Class I point. When the cooks set up a field kitchen operation, they—

- Setup the field kitchen according to FM 10-23.
- Setup MKT's according to TM 10-8340-205-13.
- Check supply quantity and condition of supplies during unloading.
- Store perishables at temperatures of 7 degrees Celsius (45 degrees Fahrenheit) or below or in a dry place with air circulation.
- Check all operating equipment according to FM 10-23 and TM 10-7360-204-13&P.
- Prepare food using the cook's worksheet and TM 10-412 or SB 10-495.
- Keep utensils and equipment clean.
- Dispose of solid and liquid waste and garbage according to FMs 10-23, and 21-10 and locally established environmental procedures and regulations.

Unit Supply

FM 10-14 and the Unit Supply Update provide guidance on unit supply operations. The supply sergeant issues and maintains organizational clothing and equipment. The supply sergeant also maintains property records. Under the guidance of the PBO, he —

- Arranges supplies so the unit can provide for fast and efficient support.
- Checks replenishment supplies and verifies them against the suspense file.
- Issues supplies promptly.
- Protects supplies from adverse weather, pilferage, and sabotage.
- Issues by subhand receipt procedures all property on the commander's hand receipt.
- Prepares shortage annexes for all missing components of end items issued on sub-hand receipts.
- Uses the procedures in DA Pamphlet 710-2-1 for handling supplies.
- Maintains unit's combat basic load of Classes I, II, and IV expendable supplies.
- Supervises the unit armor and provides the armor with assistance as needed.
- Manages hazardous materials IAW TC 5-400 and locally established environmental procedures and regulations

Requests for and Receipt of Ammunition

In a combat zone, Class V is provided on a push basis. A request for emergency resupply of ammunition will be sent through the group S4. The supply sergeant maintains the Class V basic load by hand receipt procedures IAW the unit supply update. In garrison, the requests for Class V will be submitted on a DA Form 581 through the group S2/S3 section for validation. Then the requests go to the supporting (ASP). Personnel handling ammunition should:

- Prepare four copies of DA Form 581 according to DA Pamphlet 710-2-1.
- Store ammunition according to quantity, class, and compatibility (maintain required distance between cells or areas) IAW locally established environmental and ammunition handling regulations and procedures.
- Check ammunition to make sure that it is not damaged and that it is marked by lot number, type, and quantity.
- Account for ammunition when received, when stored, and when issued.
- Use dunnage according to the guidance in TM 9-1300-206.
- Observe safety precautions at all times when handling ammunition.
- Manage wastes associated with ammunition (brass, used dunnage, and so forth) IAW locally established environmental regulations.

Discipline

The S1 officer is the point of contact for handling disciplinary actions administered under the uniform code of military justice. AR 27-10 gives further guidance.

Training

The unit training program should maintain a high state of operational readiness for the unit. Environmental stewardship training and safety training should be included in all phases of this training. The group executive officer and S2/3 *officer will* monitor the training program. FMs 25-100 and 25-101 gives guidance on training operations. Training must be "battle focused" and support the unit's approved METL. More on training is in Section V of Chapter 8.

CHAPTER 4

ORGANIZATION AND OPERATIONS OF THE HEADQUARTERS AND HEADQUARTERS COMPANY, PETROLEUM PIPELINE AND TERMINAL OPERATING BATTALION

Section I THE ORGANIZATION

MISSION AND ASSIGNMENT

The Headquarters and Headquarters Company (TOE 10416L0) provides command and control of units assigned or attached for the operation and maintenance of a military petroleum distribution system. The company is normally assigned to the Headquarters and Headquarters Company, Petroleum and Water Group, TOE 10602L0. It may be assigned to an independent corps in the absence of a petroleum and water group. The company operates in the communications zone of a theater army. It manages the petroleum pipeline and terminal operating battalion, which is an element of the petroleum and water group. Headquarters and headquarters companies for the operating battalions are assigned to the petroleum and water group as required.

CAPABILITIES

The company's capabilities are determined by the personnel strength levels and equipment authorization levels in its TOE. This company —

- Plans, commands, controls, coordinates, and directs up to five pipeline and terminal operating companies or medium truck companies (petroleum). Supervises other assigned and attached units used to operate and maintain the petroleum supply and distribution system.
- Extends and develops existing and proposed distribution systems at the theater level.

- Directs the operation of fixed petroleum storage facilities capable of storing large quantities of bulk petroleum products.

- Plans and directs the operations of the IPDS, TPT's, FSSP's and hoseline outfits.

- Operates a central dispatching and scheduling agency to schedule and direct the flow of bulk petroleum products through multiproduct military pipelines.

- Coordinates the movement of bulk products by means other than pipeline, such as a barge, rail, and truck.

- Maintains a prescribed reserve of petroleum products.

- Supervises a program for quality surveillance of petroleum products and operate a mobile petroleum laboratory.

- Transports 33 percent of its TOE equipment and supplies in a single lift using its authorized organic vehicles.

- Unit is dependent on a petroleum pipeline and terminal operating company for unit maintenance and food service support.

- Unit requires transportation for a mobile lab.

ORGANIZATION

Figure 4-1, page 4-2, shows the company organization. Sections II through VII of this chapter detail individual sections in the unit.

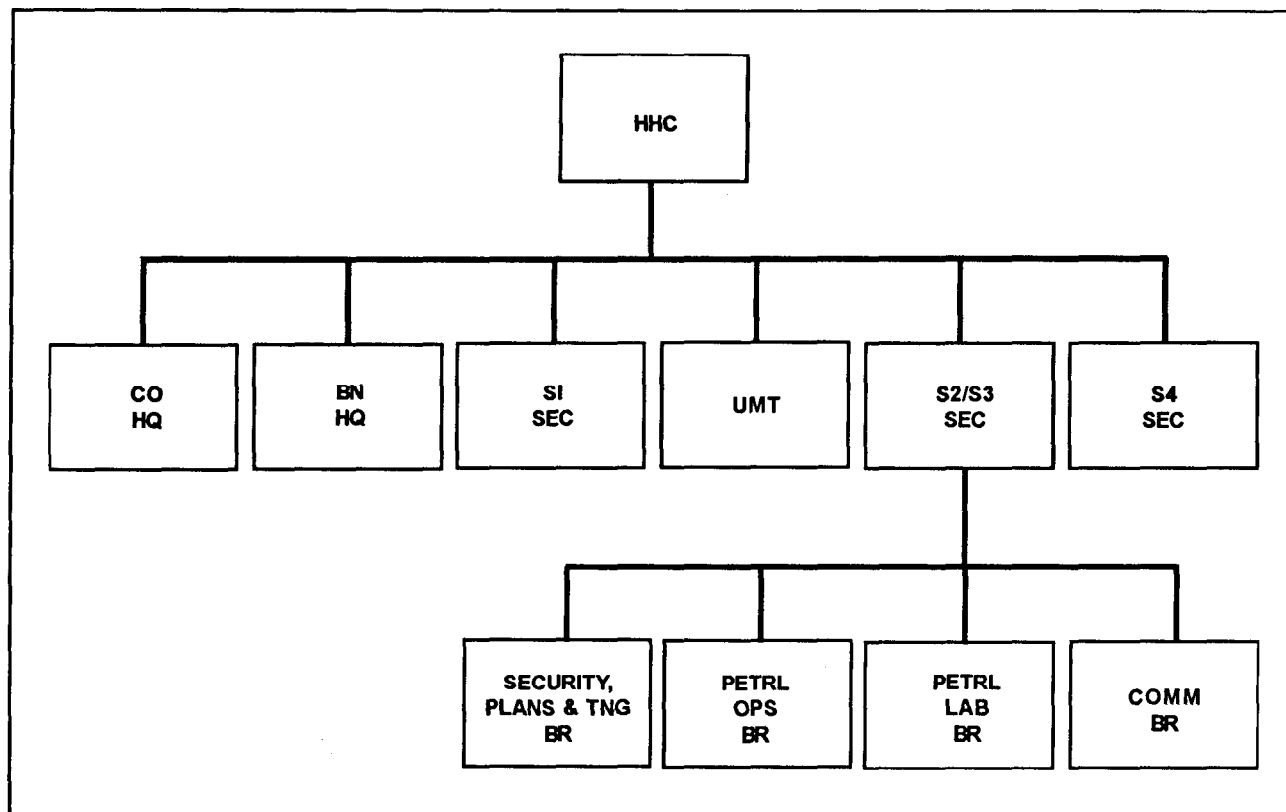


Figure 4-1. Organization of the headquarters and headquarters company, petroleum pipeline and terminal operating battalion

Section II BATTALION HEADQUARTERS

MISSION

The battalion headquarters mission is to provide supervision for the battalion. It must also provide command and control for all assigned and attached units.

RESPONSIBILITIES

The battalion commander's overall responsibility is to make sure the battalion completes its assigned missions successfully. The battalion commander (Lieutenant Colonel, 92F00), is responsible for —

- The leadership, welfare, and training of all assigned and attached soldiers.
- Prioritizing, planning, and coordinating present and future missions.
- It plans operations in anticipation of complying with applicable federal, state, local, and host nation environmental laws to include ensuring all operations undergo a safety and environmental risk assessment.

- Ensuring all personnel are trained in good environmental stewardship and that the environmental stewardship ethic is reinforced in day-to-day operations.

PERSONNEL

Effective operation of the headquarters requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel include —

- Command Sergeant Major (E9, 00Z50). Serves as the principal enlisted assistant to the commander. This includes executing established policies and standards pertaining to the performance, care, conduct, appearance, personnel management, and training of enlisted soldiers. This includes also —
 - Providing advice and making recommendations to the commander and staff on all matters pertaining to enlisted soldiers and their families.

- Accompanying the commander on inspections, visits, and at ceremonies, or acting in his place in these capacities when directed by the Commander.

- Trains and directs subordinate NCOs.

- Ensures newly assigned soldiers are instructed in military courtesy, customs of the service, and command regulations or policies.

- Provides counsel and guidance to NCOs and other enlisted soldiers in the command.

- Inspects duties performed by subordinate NCOs.

- Assists in reception of visitors to the command.

- Sits as president or member of command promotion board for NCOs as authorized by regulation.

- Performs other duties prescribed by the commander. He may also be responsible for discharging the duties listed above up to 450 miles away from the headquarters in a tactical environment. During tactical operations, the CSM should also act as the commander's representative in supervising aspects vital to the operation, as determined by the commander and himself. The CSM can lead the quartering party during major movements or otherwise supervise movement of portions of the battalion headquarters. He can assist in or direct portions of CSS operations for the battalion headquarters, portions of which maybe spread long distances. He may act as a liaison to higher, adjacent and subordinate units, or with host nation assets, all of which may be located up to 450 miles from the group headquarters.

- Executive Officer (Major, 92F00). Assists the commander in accomplishing of the overall mission. Coordinates and directs the activities of the staff. Acts as the commander in the absence of the battalion commander.

- S1 Officer (Captain, 92F00). Directs the functions of the S1 section. Directs all technical administrative operations of the battalion and *its* assigned or attached units. Section IV gives more on his responsibilities.

- S2/S3 Officer (Major, 92F00). Directs the functions of the S2/S3 branch. Plans, controls, and supervises

the operation of the battalion petroleum distributing system. This system may consist of as much as 450 miles of multiproduct pipelines and related terminal facilities. Section VI gives more on his responsibilities.

- S4 Officer (Captain, 92F00). Directs the functions of the S4 section. Plans, coordinates, and supervises all supply and maintenance activities and other related logistical matters required to support the battalion.

- Chaplain (Captain, 56A00). Conducts religious activities for the battalion according to AR 165-1. Section V gives more on his responsibilities.

- Communications and Electronics Staff Officer (Captain, 25A00). Plans and determines requirements for signal communications support and for use of signal communications equipment. Coordinates with the area signal officer as required.

OPERATIONS

Some of the responsibilities in key functional areas of the battalion headquarters follow. Sections in this Chapter detail these responsibilities.

- Plan and prepare for the deployment/redeploy merit of the battalion.

- Provide guidance and supervision of subordinate units.

- Plan and establish air defense measures.

- Monitor the tactical and technical performance of subordinate units. Provide guidance and training programs to improve this performance.

- Provide logistical and administrative support for subordinate units.

- Plan and supervise religious activities.

- Plan and coordinate installation and use of a communications network.

- Advise higher headquarters of operating situations and requirements.

- Plan and implement appropriate environmental stewardship and safety programs. It conducts operations with minimal damage to the environment as dictated by the operational situation.

Section III S1 SECTION

MISSION

The S1 section supervises, plans, and coordinates all administrative and personnel activities in the battalion. The S1 section —

- Provides for a message center.

- Maintains office records.

- Publishes orders for the assignments of replacements within battalion headquarters and subordinate units.

- Provides for personnel management and classification. It also maintains liaison with the appropriate personnel services unit on personnel actions.

- Maintains liaison with the supporting finance direct support company on financial services.

RESPONSIBILITIES

The S1's overall responsibility is to make sure his section completes its assigned missions successfully. General areas of responsibility for the S1 are —

- Unit strength maintenance.
- Personnel management.
- Manpower management.
- Morale.
- Non-judicial and administrative disciplinary actions.
- Health and safety.
- Staff coordination with higher headquarters personnel sections.

PERSONNEL

Effective operation of the section requires identifying key personnel and understanding their primary duties and key responsibilities. Key personnel in the S1 section include —

- Personnel Sergeant (E7, 75Z40). Assists the S1 officer in the operations of the section. This NCO also assists with the units assigned and attached to the battalion.

- Legal Sergeant (E5, 71D20). Maintains and processes all legal paperwork in the battalion. Coordinates with the serving staff judge advocate on legal matters.

- Administrative Sergeant (E5, 71L20). Supervises the administrative specialist. Supervises the preparation of military correspondence and orders. Maintains files and records. Compiles and submits administrative reports and coordinates publications.

- Administrative Specialist (E4, 71L10). Performs all administrative functions to include establishing and operating MARKS, and prepares section correspondence.

- Administrative Clerk (E3, 71L10). Performs administrative functions to include sustaining and operating MARKS, and preparing section correspondence.

Some S1 section general responsibilities:

- Coordinate medical support.
- Coordinate labor services.
- Monitor morale support programs.
- Prepare SIDPERS.
- Provide administrative support.
- Provide personnel services.
- Manage religious activities.
- Maintain policy files and records.
- Provide commanders with advice on command and public information.
- Manage personnel.
- Monitor material being released.
- Provide legal assistance.
- Provide library services.
- Monitor internal operations.
- Maintain discipline, law, and order.
- Coordinate EPW handling.

Section IV UNIT MINISTRY TEAM

MISSION

The UMT provides for religious ministry, pastoral care, and the moral and ethical well-being of the unit. It advises the commander and staff on matters of religion, morals, and morale.

RESPONSIBILITIES

The UMT's overall responsibility is to successfully provide religious ministry for the command. Specific UMT responsibilities include —

- Coordinating, integrating, and supervising all chaplain activities, religious services, ministries, and observances and the use of facilities as approved by the commander.

- Establishing and maintaining liaison with staff chaplain of higher, equal, or subordinate headquarters, the other military services, government agencies, the armed forces of allied nations, and officials of civilian churches and other religious organizations.

- Deploys with the battalion to offer religious services, counseling and morale support on all training or operational deployments.

- Facilitating the "free exercise" rights of all personnel, regardless of religious affiliation of either the chaplain or the soldier.

- Providing area chaplain services coverage within the geographical area or as specified in the area coverage plan.

PERSONNEL

- Providing denominational services where practical.
- Providing guidance to the battalion's family support group.
- Providing chaplain coverage to EPW's and all others as outlined in AR 165-1.

The battalion chaplain is responsible for supervising the UMT. Key personnel on this team include the Chaplain Assistant (E4, 71M10). He performs or supervises the performance of religious support in the battlefield or in garrison. He also provides personal protection and administrative support to the battalion chaplain.

Section V S2/S3 SECTION

MISSION

This section is responsible for the intelligence, security, operations, and training necessary to support the battalion's critical wartime mission. This section plans and supervises the security of the battalion's area. It coordinates with the RAOC and the headquarters and headquarters commander to implement a rear area security plan. The S2/S3 is responsible for the production of intelligence, and counterintelligence and intelligence training and security. It is responsible for communications, communications security, and relaying, on request, local weather observations. This section also directs activities pertaining to organization, operations, training, and deployment readiness for subordinate units. The four branches assigned to the section are a security, plans, and training branch, petroleum operations branch, mobile laboratory branch and the communications branch. See section VIII, IX, X and XI for their organizations and missions.

RESPONSIBILITIES

The battalion S2/S3 officer is responsible for overall command and control of the four subordinate branches in the S2/S3 section. He:

- Exercises authority through each branch chief.
- Advises the battalion commander on matters relating to the security, plans, training, and operation of the battalion.
- Develops operational and training plans for the battalion.
- Implements environmental stewardship program in key areas of interest such as environmental training programs and land management. This includes ensuring all operations undergo environmental and safety risk assessments.

PERSONNEL

Effective operation of the section requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel include —

- Petroleum Operations Sergeant (E8, 77F50). Develops plans, and coordinates and controls petroleum support operations for the battalion. Monitors all operations to ensure they reduce damage to the environment within the scope of the tactical situation. Acts as the assistant S2/S3 when needed.
- Petroleum Operations Sergeant (E7, 77F40). Assists the petroleum branch NCOIC.
- Nuclear, Biological, Chemical (NBC) Operations/Staff NBC NCO (E7, 54B40). Assists in planning and applying NBC defense measures for subordinate units and coordinates decontamination operations, when necessary. Plans, coordinates and evaluates the battalion's NBC training program.
- Petroleum Surveillance Sergeant (E6, 77L30). Plans and supervises a program for quality surveillance of petroleum products.
- Administrative Specialist (E4, 71L10). Performs all administrative functions to include establishing and operating MARKS, and preparing correspondence for the section.
- Petroleum Supply Specialist (E3, 77F10). Assists the petroleum operations sergeants and petroleum surveillance sergeant with the conduct of their assigned mission.

OPERATIONS

The section plans, monitors and coordinates all aspects of training, tactical operations, area security and communications within the battalion's area of responsibility. The battalion S2/S3 ensures the branches under his control adequately perform their duties in a systematic, coordinated effort in support of the battalion's mission.

ORGANIZATION

The Battalion S2/S3 Section is organized into branches to accomplish its mission. The branches are responsible for specific functions which are described in the following paragraphs.

Security and Plans Branch

The security and plans branch has responsibility to advise the commander and subordinate units on training during peacetime operations and on security during tactical missions. The following paragraphs detail the operations of the branch.

Mission. This branch provides supervision of the employment, deployment, training, and security of the battalion. It also covers battalion units and the petroleum distribution system. The branch —

- Develops plans and supervises training of assigned and attached units.
- Develops and implements training programs for the headquarters and subordinate units.
- Develops and implements general educational development programs.
- Plans, directs, coordinates, and supervises intelligence, counterintelligence, and civil affairs programs.
- Develops and coordinates plans for security and defense of the headquarters and subordinate units.
- Develops the situation paragraph for OPORDS and OPLANS. Makes recommendations to the battalion S2/S3, petroleum operations officer, and battalion commander on the best method to protect the force.
- Plans all training in anticipation of complying with applicable national, state, local and host nation environmental protection laws.

Responsibilities. A petroleum sergeant, (E7, 77F40), is NCOIC of this section. His key duties include —

- Preparing broad planning guidance, policies, and programs for command organizations, operations, and functions.
- Developing policies and guidance for the training of the command and evaluating this training.
- Planning all activities to comply with applicable national, state, local, and host nation environmental protection laws.
- Exercising staff supervision over all OPSEC activities.
- Managing the security clearance program for the battalion,

Personnel. Key personnel include —

- Intelligence Sergeant (E5, 96B20). Performs intelligence preparation of the battlefield. Provides technical

advice to the staff on intelligence matters. Assists in writing the intelligence estimates for operations orders and plans.

- Administrative Clerk (E3, 71L10). Performs all administrative functions to include establishing and operating MARKS, and preparing section correspondence.

Operations. This branch of the S2/S3 section operates in the same way as the S2/S3 section of the headquarters and headquarters company, petroleum group. Section VI of Chapter 3 discusses the operations of that section.

Petroleum Operations Branch

The petroleum operations branch advises the commander and assists and directs subordinate units operating bulk petroleum pipelines. The following paragraphs describe the branch in detail.

Mission. This branch provides a central dispatching element. It schedules and directs the flow of bulk petroleum through both commercial and military multiproduct pipelines. The branch also coordinates bulk petroleum movement by means other than pipeline.

Responsibilities. The petroleum operations officer (Captain, 92F00) supervises branch operations. He also directs dispatching operations. He conducts all operations so as to reduce environmental damage within the scope of the tactical situation.

Personnel. Key personnel include —

- Assistant petroleum operations officer (Lieutenant, 92F00). Assists the petroleum officer. Usually supervises the second shift.
- Freight movements officer (Lieutenant, 88B00). Coordinates bulk petroleum movement by rail, highway, air, or water.
- Petroleum dispatch sergeants (E7, (2 each) 77F40; E6, (2 each) 77F30). Maintains dispatching operations on a 24-hour basis.
- Petroleum supply sergeant (E6, 77F30). Monitors and supervises the petroleum inventory control sergeants and specialists and maintains accounts of bulk petroleum received, stored, and dispensed.
- Senior construction supervisor (E6, 51H30). Coordinates and assists in planning pipeline systems and installation and repair of pipelines, pumping stations, and storage tanks. Inspects pipeline construction for breaks, rusty pipe, and flat places. Also inspects for

leaky gaskets, loose connections, or other defects. Evaluates existing fixed facilities to determine capability for military use. Develops petroleum systems maintenance procedures.

- Petroleum inventory control sergeant (E5, 77F20). Maintains data on current bulk petroleum on-hand inventories. Additionally, maintains the total ullage by terminal and type fuel.

- Petroleum inventory control specialist (E4, (2 each) 77F10). Assists the inventory control sergeant in maintaining current petroleum supply records.

- Movements specialist (E4, 88N10; E3, 88N10). Assist the freight movements officer in coordinating fuel movement by means other than pipeline.

- Technical engineer specialist (E4, 51T10). Prepares drawings for pipelines, terminals, and storage facilities.

- Administrative specialist (E4, 71L10). Performs all administrative functions to include establishing and operating MARKS, and preparing section correspondence.

- Administrative clerk (E3, 71L10). Performs administrative functions to include sustaining and operating MARKS, and preparing section correspondence.

Operations. Branch operations include:

- Pumping schedules. Personnel in the branch determine daily requirements and available storage space. They determine the quantity of product authorized to be on hand at the various terminals. Also, they develop consumption graphs for projected consumption and deliveries. FM 10-18 gives more information on pumping schedule development.

- Dispatching records and controls. Effective dispatching operations depend on well-kept records. The daily pumping record records daily data related to pumping operations. FM 10-18 gives more information on maintaining dispatching records.

- Loading schedules. The section uses dispatching records and controls to develop loading schedules. First, they determine the estimated requirement, availability of transportation and products, and the needs of the supported unit. Then they use this data to develop loading schedules.

- Policies. The section maintains close coordination with movement programs, directives, and policies of higher commands. This ensures the branch gets the greatest use of movement capability. It also ensures Department of the Army policies concerning direct throughput of bulk petroleum products are strictly followed. FMs 10-67 and 55-10 give information on bulk

petroleum transportation. FM 100-10 gives more information on rail, highway, air, or water transportation.

- Operation reports. The section receives operation reports from all pump stations and terminals. These reports cover hourly pumping and delivery data. The section uses this information with a consumption graph and progress chart to maintain control of the pipeline system. The section must investigate all discrepancies between fuel pumped and received. FMs 10-18 and 10-67 have more information.

- Inventory procedures. The chief dispatcher must account for pipeline fill and forward this information to the accountability officer. FM 10-67 has more information. The monthly bulk petroleum accounting summary notes differences between book balance and physical inventories. The inventorying unit will also provide an explanation of the discrepancy. The unit must also originate a report of survey if losses exceed allowable amounts.

- Pipeline system construction. Section personnel must coordinate with and assist the pipeline engineer. They help the engineer plan pipeline systems and install and repair pipelines, pumping stations, and storage tanks. Personnel inspect pipelines for breaks, rust, flat places, leaky gaskets, and loose connections. They should also inspect for other defects. TM 5-343 gives guidance on performing these duties. It discusses route location, layout, and profile of the pipeline system. It also covers pipeline systems inspections. FM 10-67 also gives guidance for planning the pipeline system. Pipeline planners should do environmental and safety risk assessments for every plan.

- Transportation coordination. The transportation cell coordinates with external movements activities. They ensure bulk petroleum movement by means other than pipeline are coordinated and support the overall inland petroleum distribution plan.

Petroleum Laboratory Branch

The petroleum laboratory branch advises the commander and assists subordinate units on matters relating to petroleum quality surveillance and the operation of petroleum laboratories. The following paragraphs give details of the branches function.

Mission. This branch analyzes petroleum products received and stored in operating units. It also provides area petroleum laboratory support as directed. This branch operates a mobile petroleum laboratory. The laboratory performs partial analysis testing for petroleum products. FM 10-72 describes mobile laboratories and their operational procedures.

Responsibilities. The petroleum laboratory officer (Lieutenant, 92F00) directs the petroleum laboratory in inspecting and testing petroleum products.

Personnel. Key personnel include —

- Petroleum laboratory supervisor (E6, 77L30). Supervises the performance of standard physical and chemical tests on petroleum products. Evaluates test results for compliance with federal and military specifications. Supervises the maintenance of assigned equipment.

- Petroleum laboratory sergeant (E5, 77L20). Performs standard physical and chemical tests on fuel handled through the battalion pipeline distribution system.

- Petroleum laboratory specialist (E4, 77L10; E3, (3 each) 77L10). Perform actual testing of petroleum products under the supervision of the petroleum laboratory sergeant.

- Administrative clerk (E3, 71L10). Performs all administrative functions to include establishing and operating MARKS, and preparing section correspondence.

Operations. The section functions using many of the same procedures as the base laboratory assigned to the petroleum group. However, the laboratory performs only type B1 or below tests.

Communications Branch

The communications branch advises the commander and assists subordinate units in maintaining appropriate communications. The following paragraphs give details on the branch function.

Mission. The communications branch coordinates installation, operations and management of information systems in support of the battalion headquarters communications facilities. The branch provides —

- FM Radio (SINGARS).
- AM HF Radio.
- Mobile Subscriber User Equipment.
- Message Center Service.
- Computer Installation and Configuration
- CEOI production with RBECS
- Field wire and telephone Service
- NCS for AM and FM radio nets.

Responsibilities. The signal officer is responsible for all battalion information systems (both tactical communication and commercial computer systems). He supervises the communications branch. He also coordinates with supporting signal units for entry into the common user systems and preparation of the battalion CEOI.

Personnel. Key personnel include —

- Tactical Communications Chief (E6, 31U30). The senior enlisted advisor to the section officer. Primary responsibility is tactical communication liaison with the petroleum battalion subordinate company elements. Prepares the battalion CEOI using RBECS. Supervises all enlisted soldiers assigned to the communication branch.

- Radio Team Chief (E5, 31U20). Primary responsibility is the battalion headquarters internal communications. Responsible for all battalion headquarters information systems (tactical communications and computers). Special emphasis is on NCS operation of MSE and AM high frequency systems. Additionally, responsible for battalion computer system installation and configuration.

- Single Channel Radio Operator (E4, 31C10). Acts as the NCS for the battalion SINGARS/EPLARS and AM high frequency radio command/ops nets.

- Signal Information Service Specialist (E4, 31U10). Installs and maintains Battalion MSE, SINGARS, and AM HF digital and voice equipment. Responsible for battalion computer system installation and configuration.

- Signal support system specialist (E3, 31U10). Installs and maintains the battalion telephone and wire system. Operates the battalion message center once systems are installed.

Operations. The section is responsible for the information system integration plan; SINGARS; AM HF radio; MSE interface equipment; message center; computer installation and configuration; RBECS-CEOI construction; field wire and switchboard; and the radio net control station (NCS).

- SINGARS. The unit is equipped with the AN/VRC-90 SINGARS FM radios as shown in figure 4-2. SINGARS is a new family of VHF-FM radios that replace the old FM AN/VRC-12 series of radios. These radios provide the battalion with a tactical secure FM radio net for internal command and control and external base cluster defense coordination. These radios feature simple, quick operation using a 16 element keypad for push-button tuning. They are capable of short-long range operation for voice or digital data communications. The planning range is 8-35 kilometers. They operate in a jam-resistant, frequency-hopping mode that can be changed as needed. The NCS utilizes the AN/VRC-92 radio that is a dual long range system also capable of operating as a retrans system as mission dictates.

- AM high frequency radio. The battalion will employ the AN/GRC-193A HF radio shown in figure 4-3, page 4-10. The AN/GRC-193 is a rugged, tactical,

vehicular/base station HF radio set. The set's high power (100-400 watts) make it capable of long range communications necessary to link all pump stations in the AM HF pipeline net that may span in excess of 300 miles. (The AN/GRC-213 low power AM HF radio is unacceptable for use with the omnidirectional coverage NVIS antenna, which requires maximum power output.) The AN/GRC-193 radio set can be mounted in a wheeled

vehicle or installed in a fixed location, such as a building or tent. When installed in a fixed location, the radio requires a power supply providing 24 to 32 volts DC (such as the PP. 145 I/G). To utilize this system in the radio teletype mode the KG-84 and computer terminal, AN/UGC-144, is necessary. Secure voice requires a KY-68. Both secure and radio teletype operation is mandatory for pump station operation.

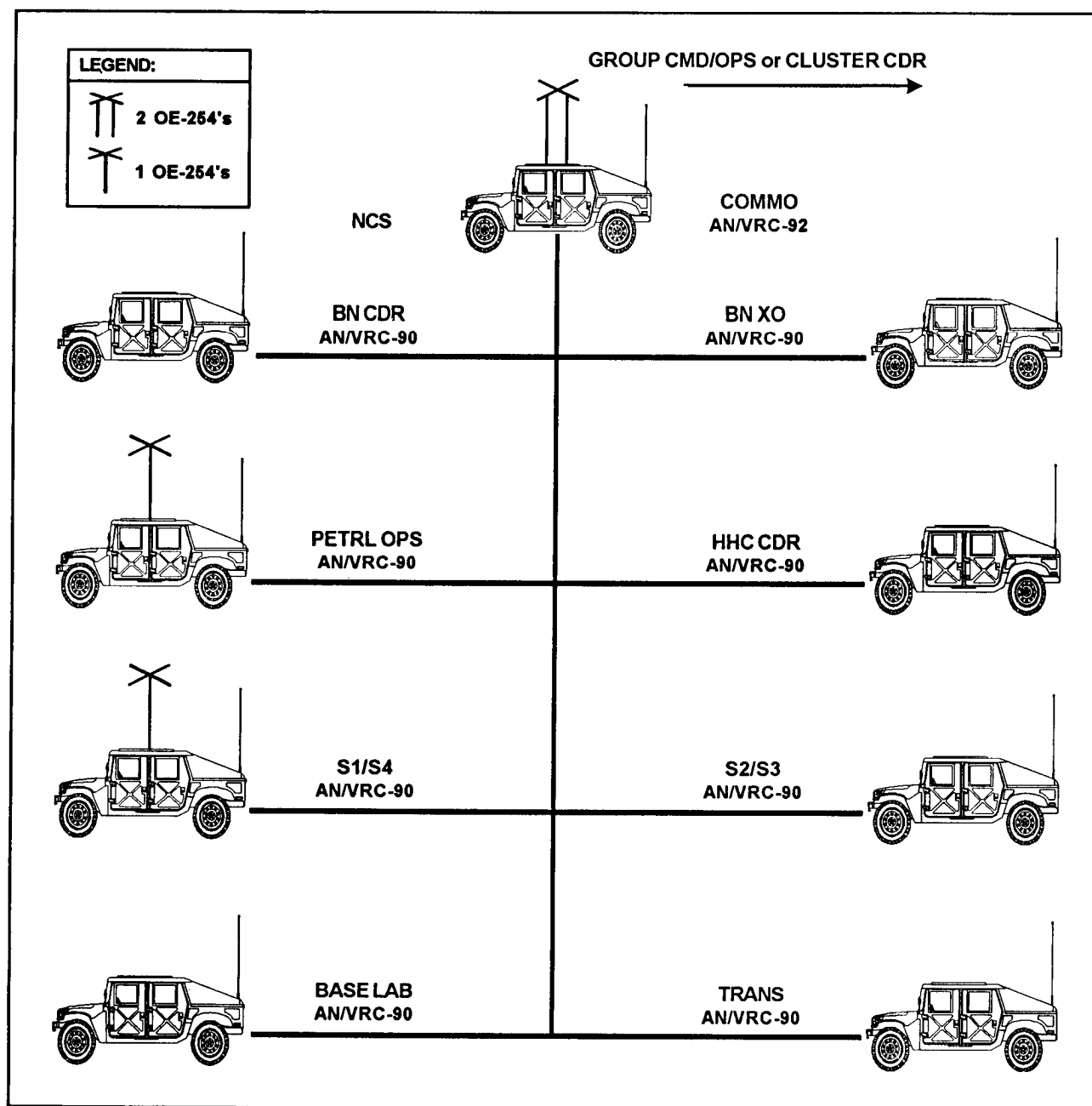


Figure 4-2. Petroleum group command/ops net (SINGARS)

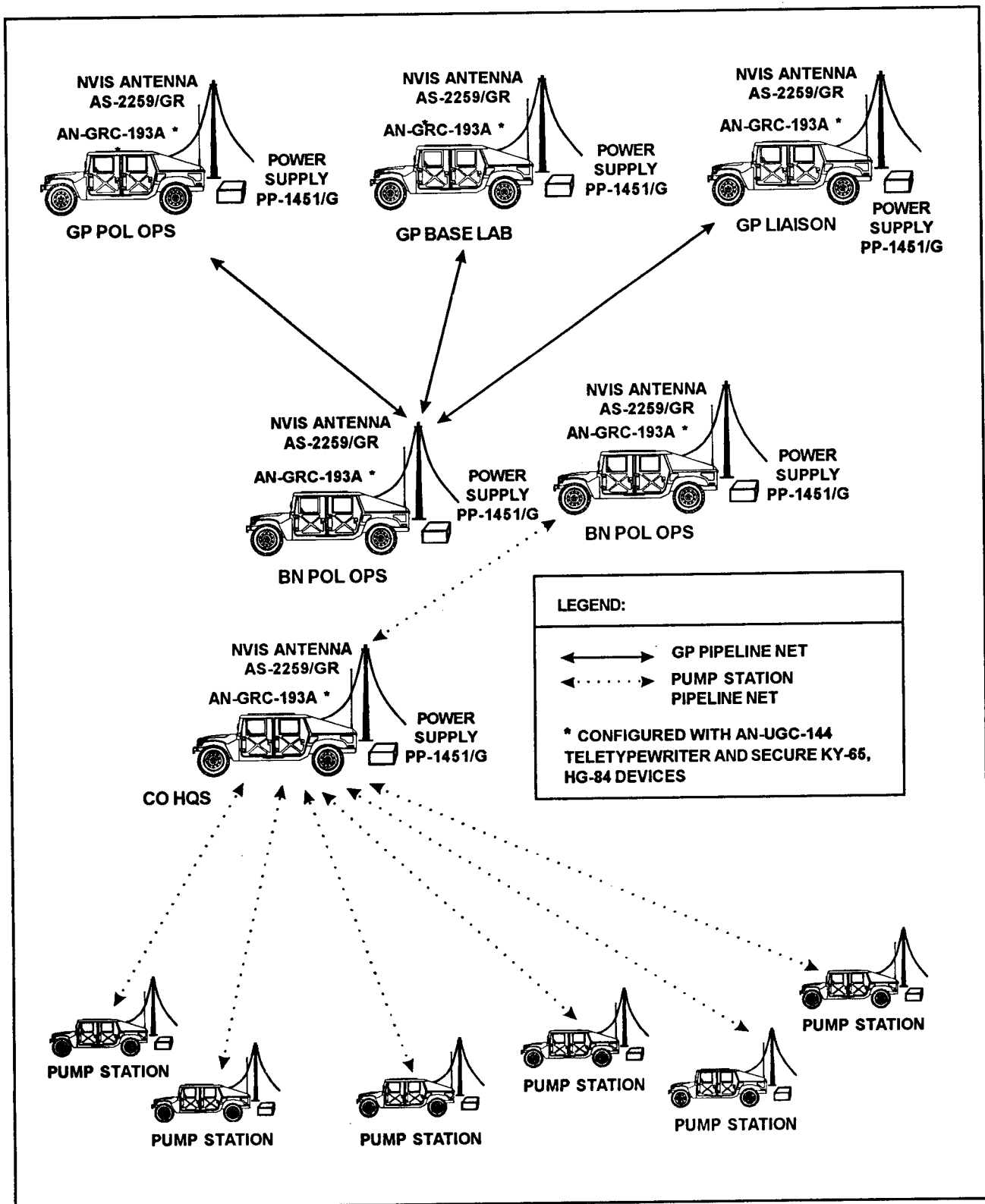


Figure 4-3. Battalion group pipeline nets (AM HF radio)

- Mobile subscriber interface equipment. The supporting signal unit provides connectivity to the battalion that allows it to interface with the theater digital or corps mobile subscriber network. Users access MSE network via fixed subscriber terminals or mobile subscriber terminals. Figure 4-4, page 4-12, depicts these access points. The fixed subscriber terminals are hard wired to a SEN through a junction box, J-1077. The three fixed instruments are the DNV, TA-1035; the DSV, KY-68; and the communication terminal, AN/UGC-144. The MSRT is the AN/VRC-97. The MSRT, which consists of a very high frequency radio and a digital secure voice terminal (KY-68), in a vehicle-mounted assembly. It interfaces with the MSE system through a RAU. As long as the radio unit has line-of-sight contact with the RAU, it has connection in the MSE area system. The operational planning range is 15 kilometers from any RAU.

- Message center. Message center operations orient on the AN/UGC-144 computer terminal that enables access into the DMS, DDN, and MSE network. Both the S4 and POL Ops sections are authorized these terminals as shown in figure 4-4. These terminals are user-owned and -operated message terminals. Through menu-driven screens and passwords, it allows composition, transmission, and formal record traffic receipt. Each terminal has a KY-68 DSV that provides autodial encryption capability. Section personnel, with the assistance of the communication section, process incoming and outgoing messages according to assigned priorities. They will observe the following precedence, time frames and procedures per FM 24-17 and AR 25-11.

- Flash—less than 10 minutes
- Immediate—within 30 minutes
- Priority—within 2 hours
- Routine—within 6 hours

- Computer installation and configuration. The communication section is responsible for all battalion information systems to include computers and peripheral devices. Responsibilities include —

- Ensuring all computer systems are accredited for the appropriate classification and networking level
- Properly configuring all computer communication devices (modems).
- Installing, maintaining and providing operational guidance on battalion software.

- RBECS/CEOI construction. The communication section creates and maintains CEOI databases tailored to specific missions. Using RBECS, the section is capable of generating processing, displaying, editing, printing, storing and transferring CEOI information, RBECS also processes the frequency hopping data,

(TSK, HOPSET, NET ID's), for the SINCGARS and other radio systems. RBECS provide the capability to selectively compartmentalize information based on need and transfer the data to ANCD, and ECCM fill devices (MX-10579 and MX 18290). RBECS requires formal training.

- Local field wire and switchboard. The communication section will devise and implement a wire net plan. The plan identifies each user telephone connected to the switchboard (SB-3614) or MSE/TRI-TAC switch. The plan will show where the wire is buried or installed overhead. Additionally, the wire team will designate a wire team to coordinate telephone installation with supported units and identify manpower and equipment requirements. Users are responsible for wire installation and connection to the switchboard. Section personnel do the following:

- Test wire before installation.
- Connect and lay the wire according to the wire net plan.
- Lay **the lines** by the shortest distance allowed by terrain.
- Secure lines at their start point and at any point where they change direction or run into construction.
- Tag wire according to FM 24-20 and the CEOI.
- Make maximum use of terrain and natural vegetation to conceal wires.
- Make sure that construction techniques meet the requirements of FM 24-20.
- Check all splices to make sure they are taped and correct.
- Make preinstallation checks of the switchboard.
- Install and ground the switchboard in an area protected from moisture.
- Attach telephone lines and trunk connections at the switchboard.
- Label the switchboard according to the telephone directory.
- Keep wire splices clear of standing water and maintain a correct amount of slack in the wire.
- Check the wire periodically to make sure no one has tampered with it.
- Recover field wire without damaging it. FM 24-20.
- Wind wire evenly on reels with enough slack at the start to allow easy testing and servicing.

- Radio communications net. There are nine SINCGARS radios dispersed throughout the company, see figure 4-4. Section personnel establish the radio communications net for these radios. When performing their duties, they should —

- Ground the equipment
- Check at first light (when the station is set up

during darkness) to make sure it is concealed. If it is not, take steps at once to conceal it.

- Make initial entry into the designated net within the time frame set by the commander.
- Use operating signals, prosigns, and authentication when required by the NCS.
- Process messages, requiring coding or decoding, promptly and without error according to FM 24-18.
- Adhere to all COMSEC procedures.
- Follow the guidelines in FM 21-2 when setting up the radio net.

- NCS. The battalion NCS operates according to the procedures outlined in FM 24-18. Section personnel —
 - Open and close the net.
 - Control transmission.
 - Authenticate and clear traffic within the net.
 - Direct the net.
 - Correct errors in operating procedures.
 - Give or deny permission for stations to enter or leave the net.
 - Impose or lift listening silence.
 - Maintain net discipline.

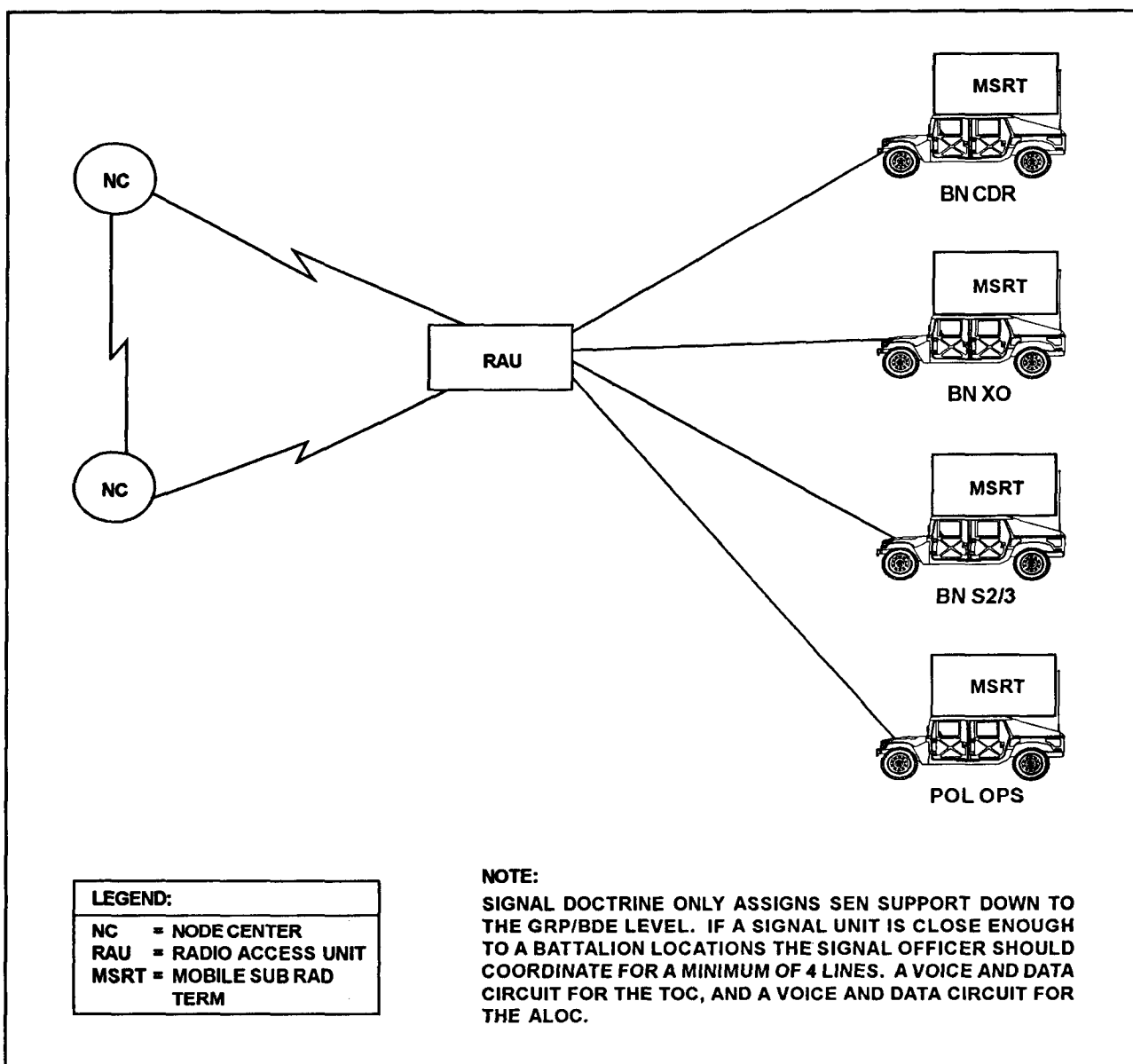


Figure 4-4. Petroleum battalion mobile subscriber interface

Section VI S4 SECTION

MISSION AND RESPONSIBILITIES

The primary responsibilities of the S4 officer are to advise the battalion commander on logistics, plan the logistics portions of operations and to supervise the battalion S4 section. The S4 section provides technical assistance on supply and maintenance to the units in the battalion. The S4 officer is responsible for the overall coordination, advice, and assistance the section gives to the battalion and its units. He directs the actions they take on maintaining supply policies and levels. He also directs them in maintaining stockage lists, maintenance policies and inspection, and financial management information. He administers pertinent portions of the unit's environmental stewardship program. Areas of environmental interest for the S4 include the management and disposal of hazardous materials in supply room operations, food service operations, and maintenance operations; disposal of solid and liquid wastes associated with food service operations and environmentally safe maintenance practices. He should ensure all battalion supply functions are automated using the ULLS S4.

PERSONNEL

Effective operation of the section requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel in the S4 section include—

- Unit Maintenance Technician (Warrant officer two, 915A0).
- Provides technical advice and assistance on automotive equipment maintenance to the petroleum companies. Establishes an environmental stewardship program for motorpool operations. Reviews maintenance practices to ensure they are done in an environmental safe manner.
- Engineer Equipment Repair Technician (Warrant officer two, 919A0). Provides technical advice and assistance on engineer equipment maintenance to all assigned and attached units.
- Property Accounting Technician (Warrant officer two, 920A0). Manages the units' property books. Provides the petroleum companies with technical assistance on organizational supply matters.
- Senior Maintenance Supervisor (E8, 63B50). Assists the companies in obtaining the necessary equipment

and supplies needed by their maintenance sections. Ensures maintenance operations are conducted in an environmentally safe manner. Implements the units environmental stewardship program in maintenance operations. Coordinates the maintenance practices and procedures of the companies.

- Supply Sergeant (E7, 92Y40). Supervises the battalion's internal supply functions. Plans, coordinates, and inspects unit and organizational supply operations. Manages hazardous material supply items IAW locally established procedures and regulations. Supervises the preparation and maintenance of supply records of subordinate units. Assists the PBO.
- Assistant Supply Sergeant (E5, 92Y20). Assists the battalion supply sergeant
- Supply Specialist (E4, 92Y10; E3, 92Y10). Requests, receives, and processes the necessary supplies and equipment for subordinate units.
- Administrative Specialist (E4, 71L10). Performs all administrative functions to include establishing and operating MARKS, and preparing section correspondence.

MAINTENANCE OPERATIONS

The section's primary function is to provide guidance and assistance on internal logistics for the unit. To do this, the section addresses the factors related to this function in the following paragraphs.

Procedures

The S4 section personnel should conduct staff inspections of maintenance operations IAW DA Pamphlet 738-750. During these inspections, they should review tiles to determine the number, type, and frequency of repairs and the time involved. The section establishes and monitors equipment service schedules. It also consolidates and forwards various equipment and maintenance status reports. Section personnel should also inspect SOP's and procedures to ensure they comply with environmental protection regulations. DA Pamphlet 738-750 gives more information on the details of these functions.

Material Readiness Assistance Visits

S4 section personnel make liaison visits to subordinate units of the battalion and advise them on ways to

improve their readiness. They contact direct support facilities to place command emphasis on demands and incoming requisitions. They also place emphasis on supply status reports, as well as requirements for current and planned operations. AR 710-2, DA Pamphlet 710-2-1, and DA Pamphlet 738-750 are references for these actions.

Material Readiness Reports

The section processes DA Forms 2406 for the battalion. These reports provide information on the condition of equipment in the hands of using organizations. DA Pamphlet 738-750 gives more information.

Storage of Supplies and Equipment

Supplies and equipment should be managed and cared for according to the standards outlined in the current Unit Supply Update. Receipt, storage, and issue of environmentally hazardous materials should comply with all pertinent national, state, local and host nation environmental regulations. The S4 section makes periodic inspections of unit supply storage procedures.

Supply Procedures

The battalion units send all authorization supply documents to the section. DA Pamphlet 710-2-1 describes these documents' uses. Review them to see that —

- All equipment authorized is on hand or on request.
- Unit supply requests and priority designator procedures are not being abused.
- Requested quantities for environmentally hazardous materials are the minimum needed to accomplish the mission.
- Prescribed loads of ammunition are managed IAW local policy.
- Individuals have clothing and equipment as authorized by common table of allowances (CTA) 50-900.
- Arms, ammunition, and explosives are maintained according to ARs 190-11 and 190-40 and local policy.
- Excess property accountability and disposition.

Receipts and Records

The PBO maintains automated organizational property books and all other property records. References that should be available are ARs 190-11, 220-1, 700-84, 703-1, 710-2, 710-3, 735-5, DA Pamphlets 600-8 and DA Pamphlet 710-2-1, FM 10-14 and 10-14-2, SB 700-20; and the AMDF. The property book should be maintained by checking:

- All equipment authorized by modification table of organization and equipment. It should be on hand or on order.
- Shortage annexes. They are prepared for all missing components of end items. (Personnel are held responsible for sets, kits, and outfits.)
- Components. They should be checked for serviceability and listed on hand receipt annexes.
- Temporary hand receipts. When used, hand and subhand receipts are adjusted every six months. The six-month period starts on the date entered on the oldest temporary hand receipt. Ensure that change documents are being used for turn-in and issues between the six month hand-receipt reconciliation periods.
- The on-hand physical inventories are conducted. Assure monthly sensitive items and 10% inventories are conducted. The PBO must maintain a copy of these inventories.
- The documents file for transactions for nonexpendable items. It should be maintained as a supporting document to the property book.

Budgets

The S4 officer should evaluate and control costs in the battalion. He plans supply and equipment needs for the year. He recommends priorities for spending the money allocated quarterly by higher headquarters. He must also establish some system of monitoring funds spent by the battalion. FM 10-14-2 gives more details on financial management.

Nonexpendable Supplies

The S-4 section requests, receives and issues nonexpendable supplies from the unit providing direct supply support. These actions are recorded on DA Form 1064 (Document Register for Supply Action).

Requests for Supplies. Check that items requested from subordinate units are authorized to them. Record the request in the document register, and give it a document number. Then send it to the supply support activity. DA Pamphlet 710-2-1 and FM 10-14 give more detailed information.

Issue of supplies and equipment. When issuing items to a supported unit —

- Use DA Form 2062 to record the issue of property book items.
- Use DA Form 3161 as a temporary hand receipt document for issue and turn-in transactions. It should be stamped, "temporary hand receipt." Temporary hand

receipts are posted to the DA Form 2062 at least once every six months.

- List in the property book all items with serial numbers as outlined in AR 710-2.
- Issue items on the DA Form 2062 if they are defined in AR710-2 and in the AMDF as durable items.

Turn-Ins. Subordinate units turn in unserviceable items and excess serviceable items to the S4 section. Prepare a temporary hand receipt for the turn-in. Give it to the holder of the hand receipt. Prepare a request for turn-in on all turn-in items. Enter the transactions on the document register. Send the turn-in documents to your supply support activity. Turn in the equipment when directed to do so.

Lost, Damaged, or Destroyed Property. When property has been lost, damaged, or destroyed by a supported unit, your section is notified. The responsible unit prepares a DA Form 1659 and other documents authorized by AR 735-11.

Requests for Ammunition. The S4 section processes DA Form's 581 for basic load items. They review and verify these requests, using the weapons density, controlled supply rate, and consumption projections of each unit. They process the requests further IAW locally established policy.

Section VII COMPANY HEADQUARTERS

MISSION

The company headquarters provides command, control, discipline, training, personnel administration functions, organizational maintenance functions and supply functions for the soldiers in the company. It also coordinates with higher headquarters and staff sections to accomplish given missions.

RESPONSIBILITIES

The company commander (Captain, 92F) is responsible for the leadership, welfare, discipline, and training of all the soldiers in the company. He —

- Sets priorities and coordinates present and future missions of the company.
- Directs and supervises all technical operations and support activities that impact the headquarters operations.
- Ensures all required reports and data are prepared and transmitted to staff elements as required.
- Conducts safety and environmental risk assessments for each operation.

PERSONNEL

Effective operation of the company headquarters requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel include —

- First Sergeant (E8, 77F5M). Assists the commander in supervising the operation of the company headquarters. Is responsible for the leadership, welfare, and training of the enlisted soldiers assigned to the company.
- Supply Sergeant (E5, 92Y30). Requisitions, receives, stores, accounts for, and issues all classes of

supply (except class IX) for the company. Manages hazardous material supply items IAW locally established procedures and regulations.

- Decontamination Specialist (E4, 54B10). Advises the commander on unit NBC training and operations. Supervises the training of unit NBC teams. Maintains organic NBC equipment and prescribed load list (PLL). Manages hazardous materials IAW locally established procedures and regulations.

- Personnel Administrative Specialist (E4, 75B10). Performs all administrative functions for the company. Inputs personnel actions using Standard Installation/Division Personnel System (SIDPERS).

- Light-Wheeled-Vehicle Mechanic (E4, 63B10). Augments the supporting unit assigned to provide organizational maintenance. He ensures maintenance procedures comply with locally established environmental protection regulations and procedures.

- Armorer/Supply Specialist (E4, 92Y10). Maintains the unit small arms and assists the supply sergeant. Manages hazardous materials IAW locally established policies and regulations.

- Cook (E3, 92G10). Cooks and serves for unit personnel. Maintains and sanitizes assigned equipment. Augments supporting unit's food service section.

TACTICAL AND ADMINISTRATIVE OPERATIONS

The following paragraphs highlight some key areas of interest while operating in a tactical environment. They also give highlights of company administration in

both the tactical and garrison environment. It is important to note the company is not self sufficient in food service and unit maintenance, and will need outside support to meet mission requirements for these areas.

Command and Control

Command and control of the unit in tactical and garrison operations is the most important function of the unit headquarters. The following paragraphs give some details on the command and control function.

Unit Defense. The battalion S2/S3 officer establishes overall defensive plans for the group and its subordinate units. The company commander then develops a company defense plan within these guidelines. FM 21-75 contains details of establishing company defenses. Key points are —

- Make sure the unit defense includes observation posts and interlocking fields of fire. It should also include adequate communications, minefield, and antiarmor barriers.
- Hold rehearsals to make sure that all elements of the plan are coordinated.
- Check range cards, sector sketches, and defensive tire plans.
- Assign a final protective line and principal direction of tire for each machine gun.
- Submit to the battalion commander reports of intention to lay minefields. Also report to him or her the start and completion of the laying of the minefield. FM 20-32 gives more information.
- Check to see that artillery and mortar final protective fires are determined. Make sure they have been coordinated with the designated fire support unit.

Camouflage. Camouflage is one of the most critical means of defense for combat service support units. Camouflage should protect the unit from detection from the air and the ground. The unit should use all available natural and man-made devices to camouflage its site by using approved techniques. The company leadership should constantly evaluate camouflage for its effectiveness. FM 5-20 gives helpful information on camouflage techniques.

Field Sanitation. A field sanitation team performs the sanitation duties for the company. An NCO from within the headquarters monitors the work of the team. He also inspects units to make sure they are following all sanitary procedures. He ensures —

- Steps are taken to control insects. Disease-bearing animals and other threats to sanitation should also be controlled.

- Field sanitation standards comply with the regulations and policies set forth in a field sanitation SOP.

- The field sanitation team is properly trained and coordinates with outside agencies for help when needed.

- The company has the prescribed amount of field sanitation kits on hand and/or the appropriate materials for field sanitation functions.

Unit-Level Maintenance. One light-wheeled vehicle mechanic is assigned to the company. He augments the unit assigned to provide organizational maintenance. His key duties include —

- Provide limited organizational maintenance support to the company.
- Ensure proper use of tools, and ensure proper test equipment maintenance.
- Review TAMMS forms for completeness and accuracy.
- Assist the supporting unit's maintenance personnel with the maintenance program to include organizational-level maintenance, drivers' training program, oil analysis program, and other programs as directed.
- Ensure unit maintenance follows established environmental protection guidelines.

Medical Support The company commander is responsible for coordinating proper medical support. FM 8-10 gives medical support guidance. Key points in this area are —

- Proper medical coordination is made with higher headquarters.
- Policies and procedures are up to date.
- Personnel receive medical aid during any unit operation.
- Emergency aid and unscheduled medical support are available during day-to-day operations. FM 21-11 gives more information.
- Ensure the unit has the appropriate number of trained combat lifesavers. Ensure all required Class VIII equipment is available to qualified unit personnel.

Response to Ground Attacks. Response to ground attack should be thoroughly practiced as a battle drill. The severity of the ground attack should be assessed immediately and reported to higher headquarters. Indirect fires should be used as appropriate. The company should have (as a minimum) a squad-sized QRF armed with an automatic weapon. The QRF will be under direct control of the company headquarters section at all times. The QRF will respond immediately to suppress an attack on any portion of the perimeter. The company should be able to defeat a level I attack without further reinforcement. Higher levels of attack will require outside support and possible displacement of the company to avoid and potentially defeat the enemy force.

Physical Security. Access to restricted areas should be strictly controlled. Dismount points must be set up and manned. Observation posts are positioned around the area as appropriate. Personnel must be assigned camouflaged positions along the perimeter. Weapons, ammunition, and explosives must be physically secured. FM 19-30 and AR 190-11 are the primary references for physical security.

Captured Enemy Personnel and Material. The company must process any captured enemy personnel and equipment correctly. Key points in handling enemy personnel include —

- Disarm and search prisoners for concealed weapons and for documents of intelligence value.
- Segregate the prisoners by status, rank, and sex.
- Give wounded personnel lifesaving and life-sustaining medical treatment. Evacuate them to the nearest medical facility as soon as possible.
- Keep them silent.
- Tag, safeguard, and move all equipment and documents to the rear or to the battalion headquarters. FM 34-1 gives more information.
- Prepare tags to give the date and time of capture, the capturing unit, and the circumstances surrounding the capture. Tags should also state if documents or equipment were found on the prisoner. (Under no circumstances may documents and equipment be altered or kept as souvenirs.) Make sure operations are followed within the limits set forth in FMs 19-40 and 27-10, Chapter 3.
- Give prisoners no comfort items. They retain safety items such as their helmet and protective mask.
- Treat all prisoners according to Geneva Convention provisions. FM 27-10 gives guidance. Transfer prisoners to the nearest military police activity as soon as possible.

Administrative and Logistical Support

Two of the more important functions of the headquarters is to provide administrative and logistical support to assigned soldiers. The following paragraphs give some pertinent details of these functions.

SIDPERS Input. The personnel administrative specialist inputs all personnel administrative data using SIDPERS transactions. He provides data to the group headquarters S1 section by secure means. DA Pamphlet 600-8-1 gives guidance. The information to be gathered includes —

- Casualty reports.
- Replacement personnel requests.
- Promotion recommendations.

- Disciplinary actions.
- Awards requests.
- Other administrative data required for unit support.

Mortuary Affairs. When soldiers in the unit are killed in action, it is the units' responsibility to evacuate the remains to the nearest mortuary affair teams providing area support. If remains cannot be recovered due to tactical or logistical limitations, the unit must report their location to higher headquarters. If the remains are not recovered, the unit personnel specialist will prepare a report on where the remains are located, and why they have not been recovered. FM 10-63, FM 10-297 and STP 10-57F14-SM-TG give more guidance.

Food Service Support. The company requires food service support augmentation for its one assigned cook.

Unit Supply. FM 10-14 and the most current unit supply update give detailed guidance for unit supply. In general, the supply sergeant requests, accounts for, stores, issues, and turns-in (excess and unserviceable) all classes of supply except class IX. The supply sergeant also maintains property records. Under the guidance of the battalion S4 and the PBO, he —

- Automates all supply room functions using the ULLS-S4 module
- Arranges supplies so the unit can provide fast and efficient support.
- Manages supply items that are hazardous materials IAW locally established environmental procedures and regulations.
- Checks replenishment supplies and verifies them against the suspense file.
- Issues supplies promptly.
- Protects supplies from adverse weather, pilferage, and sabotage.
- Issues by subhand receipt procedures all property on the commander's hand receipt.
- Prepares shortage annexes for all missing components of end items issued on sub-hand receipts.
- Handles supplies IAW DA Pamphlet 710-2-1 and ULLS-S4 procedures.
- Maintains unit's combat basic load of CL I, II, and IV expendable supplies.
- Supervises the unit armorer and provides the armorer with assistance as needed.

Requests for and Receipt of Ammunition. Company personnel will manage the unit's Class V account. In combat, Class V is provided on a push basis. Emergency requests for ammunition are sent through the group S4 section. In garrison, ammunition must be

requested IAW locally established procedures. Key points for requesting and handling ammunition are:

- Prepare copies of DA Form 581 (Request for Issue or Turn-In of Ammunition) according to DA Pamphlet 710-2-1.
- Store ammunition according to quantity, class, and compatibility (Maintain required distance between cells or areas.) IAW locally established environmental procedures and regulations.
- Check ammunition to make sure it is not damaged and it is marked by lot number, type, and quantity.
- Account for ammunition when received, when stored, and when issued.
- Use dunnage according to the guidance in TM 9-1300-206. Manage and dispose of used dunnage IAW locally established environmental policies and procedures.
- Observe established environmental and safety precautions at all times when handling ammunition and associated waste products.

CHAPTER 5

ORGANIZATION AND OPERATIONS OF THE HEADQUARTERS AND HEADQUARTERS COMPANY, PETROLEUM SUPPLY BATTALION

Section I THE ORGANIZATION

MISSION

The Headquarters and Headquarters Company, Petroleum Supply Battalion (TOE 10426L0), provides command, control, and supervision over petroleum supply companies. It also provides command, control, and supervision over assigned or attached transportation medium truck companies that distribute petroleum.

ASSIGNMENT

The company is normally assigned to the quarter-master group (petroleum and water) or area support group within the theater. However, for independent corps level operations, it can be assigned directly to the COSCOM.

CAPABILITIES

The company's capabilities are determined by personnel strength levels and equipment authorization levels in its TOE. The company can —

- Command two to five companies. These companies can be a mix of petroleum supply companies or medium truck companies (petroleum).

- Plan for the storage and distribution of bulk petroleum products required by all direct support or general support units in the theater or corps area.

- Manage a program for quality surveillance of petroleum products and operate a mobile petroleum laboratory.

- Make sure that a prescribed portion of the theater/corps petroleum reserve is maintained by attached or assigned petroleum supply units.

- Transport 33 percent of its TOE equipment and supplies in a single lift using its authorized organic vehicles.

ORGANIZATION

Figure 5-1, page 5-2, shows the company's organization. Sections II through VII of this chapter discuss each element of the company in detail.

Section II BATTALION HEADQUARTERS

MISSION AND RESPONSIBILITIES

The battalion headquarters provides command and control for the battalion and its assigned and attached units. The battalion commander (Lieutenant Colonel, 92F00) commands the battalion and the petroleum distribution system. It plans and executes all operations

to comply with applicable national, state, local and host nation laws to include ensuring environmental and safety risk assessments are conducted for all operations. All technical operations and support activities connected with the system also come under his control.

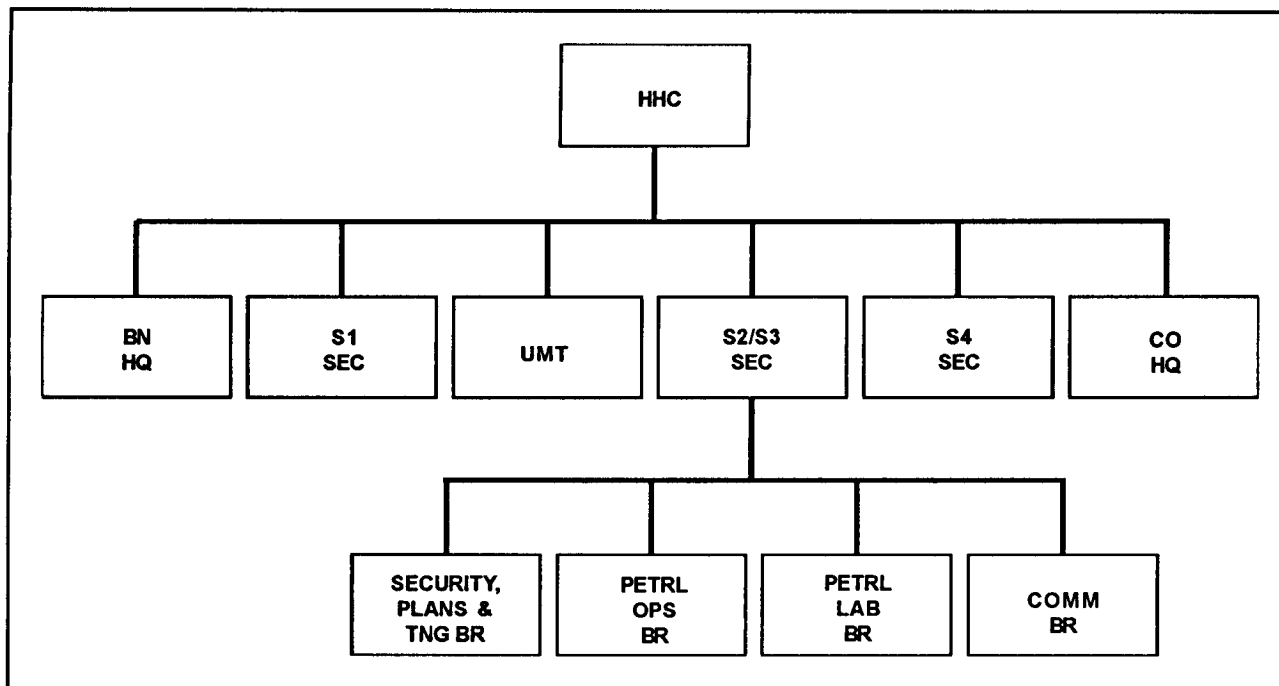


Figure 5-1. Organization of the headquarters and headquarters company, petroleum supply battalion

PERSONNEL

Effective operation of the headquarters requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel include —

- Executive Officer (Major, 92F00). Assists the commander in his duties. Coordinates and directs battalion staff actions. Coordinates the units environmental stewardship programs. Serves as troop information officer and materiel readiness officer.

- Chaplain (Captain, 56A00). Conducts the religious activities of the battalion. Section IV gives more on his responsibilities.

- S1 Officer (Captain, 92F00). Directs the functions of the S 1 section. Directs all technical administrative operations of the battalion and its assigned and attached units. Section III gives more on his responsibilities.

- S2/S3 Officer (Major, 92F00). Directs the functions of the S2/S3 section. Plans, controls, and supervises the supply and distribution of petroleum. Section V gives more on his responsibilities.

- S4 Officer (Captain, 92F00). Manages all activities concerned with supply and maintenance. Section VI gives more on his responsibilities.

- Communications-Electronic Staff Officer (Captain, 25C00). Plans and determines requirements for signal

communications support and for use of signal communication equipment. Coordinates with the area signal officer as required. Section XI gives more on his responsibilities.

- Command Sergeant Major (E9, 00Z50). Serves as the principal enlisted assistant to the commander. This includes executing established policies and standards pertaining to the performance, care, conduct, appearance, personnel management, and training of enlisted soldiers. This include —

- Providing advice and making recommendations to the commander and staff on all matters pertaining to enlisted soldiers and their families.

- Accompanying the commander on inspections, visits, and at ceremonies, or acting in his place in these capacities when directed by the Commander.

- Trains and directs subordinate NCOs.

- Ensures newly assigned soldiers are instructed in military courtesy, customs of the service, and command regulations or policies.

- Provides counsel and guidance to NCOs and other enlisted soldiers in the command.

- Inspects duties performed by subordinate NCOs.

- Assists in reception of visitors to the command.

- Sits as president or member of command promotion board for NCOs as authorized by regulation.

- Performs other duties prescribed by the commander. He may be responsible for discharging the duties listed above over long distances in a tactical environment. During tactical operations, the CSM should also act as the commander's representative in supervising aspects vital to the operation, as determined by the commander and himself. The CSM can lead the quartermaster party during major movements or otherwise supervise movement of portions of the battalion headquarters. He can assist in or direct portions

of CSS operations for the battalion headquarters, portions of which may be spread long distances. He may act as a liaison to higher, adjacent and subordinate units, or with host nation assets, all of which may be located long distances from the battalion headquarters.

- Petroleum Light Vehicle Operator (E3, 77F10). Drives for the commander. Maintains the commander's vehicles.

OPERATIONS

The function of the battalion headquarters is similar to those of the command section of the pipeline and terminal battalion. Section II of Chapter 4 gives guidance.

Section III S1 SECTION

MISSION

This section provides all administrative and personnel management support required throughout the battalion. The S 1 section —

- Distributes messages.
- Maintains office records.
- Publishes orders.
- Maintains liaison with supporting financial activity.
- Manages personnel and personnel services.

RESPONSIBILITIES

The S 1 supervises the operations of the S 1 section. He advises the commander and other staff officers on personnel related matters. These include:

- Unit strength.
- Personnel management.
- Manpower management.
- Morale.
- Discipline, law, and order.
- Health and safety.

PERSONNEL

Effective operation of the section requires identifying key personnel and understanding their primary duties and responsibilities.

Key personnel include —

- Personnel Sergeant (E7, 75Z40). Assists the S 1 officer. Supervises personnel management classification and assignment. Maintains liaison with the personnel service unit providing personnel service to the battalion.

- Administrative Sergeant (E5, 71L20). Assists the personnel staff NCO and supervises the clerk typist and records clerk.

- Legal Specialist (E4, 71D10). Maintains all legal paperwork in the battalion.

- Administrative Specialist (E4, 71L10). Performs all administrative functions to include establishing and operating the MARKS, and preparing section correspondence.

- Administrative Clerk (E3, 71L10). Performs administrative functions to include sustaining and operating MARKS, and preparing section correspondence.

OPERATIONS

Operations are similar to those of the S 1 section of the pipeline and terminal battalion. Section III of Chapter 4 gives details on section operations.

Section IV UNIT MINISTRY TEAM

MISSION

The UMT provides for religious ministry, pastoral care, and moral and ethical well-being of the unit. It advises the commander and staff on matters of religion, morals, and morale.

RESPONSIBILITIES

The responsibilities are identical to the unit ministry team in the headquarters and headquarters company, petroleum pipeline and terminal battalion. Chapter 4, section IV gives details.

PERSONNEL

The battalion chaplain supervises the operations of the UMT. Personnel assigned to the UMT include the Chaplain Assistant (E4, 71M10). He performs or supervises the performance of specified elements of religious

support in the battlefield or in garrison. He provides personal protection and administrative support to the battalion chaplain.

Section V S2/S3 SECTION

MISSION

This section is responsible for the intelligence, security, operations, and training necessary to support the battalion's critical wartime mission. This section plans and supervises the security of the battalion's area. It coordinates with the RAOC and the headquarters and headquarters commander to implement a rear area security plan. The S2/S3 is responsible for the production of intelligence, and counterintelligence and intelligence training and security. It is responsible for communications, communications security, and relaying, on request, local weather observations. This section also directs activities pertaining to organization, operations, training, and deployment readiness for subordinate units. The four branches assigned to the section are a security, plans, and training branch, petroleum operations branch, mobile laboratory branch and the communications branch.

RESPONSIBILITIES

The S2/S3 officer supervises the organization, training, and employment of assigned and attached units. He is also responsible for administering pertinent portions of the unit environmental stewardship program. Particular areas of interest for the S2/S3 are environmental stewardship training and environmentally sensitive land management (TC 5-400). The supervisors of the security and plans branch, the petroleum operations branch, mobile laboratory branch and communications branch, are under his control.

PERSONNEL

Effective operation of the section requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel include —

- Operations Sergeant (E8, 77F50). Supervises operations in the S2/S3 officer's absence.
- Nuclear, Biological, Chemical (NBC) Operations/Staff NCO (E7, 54B40). Assists in planning and applying NBC defense measures for subordinate units and

coordinates decontamination operations, when necessary. Monitors for appropriate handling of NBC-related hazardous materials.

- Petroleum Surveillance Sergeant (E6, 77L30). Plans and supervises a program for quality surveillance of petroleum products.
- Administrative Specialist (E4, 71L10). Performs all administrative functions to include establishing and operating the Modern Army Records Keeping System (MARKS), and preparing section correspondence.
- Petroleum Supply Specialist (E3, 77F10). Assists the petroleum operations sergeants and petroleum surveillance sergeant.

OPERATIONS

The section branches carry out the mission. The section office oversees the functions of the branches to ensure their operations accomplish mission goals. The petroleum surveillance sergeant plans and supervises a quality surveillance program for the battalion. Petroleum laboratories technicians assigned to the subordinate petroleum supply companies will use this program as a guide when testing products.

ORGANIZATION

The S2/S3 section is organized into four branches to accomplish its mission. The branches are responsible for specific functions which are described in the following paragraphs.

Security and Plans Branch

The following paragraphs give details on the function of the branch.

Mission. The security and plans branch plans, controls, and supervises the security, deployment, employment, training, and operation of the battalion. Planning is done to comply with applicable national, state, local and host nation environmental protection laws. The branch also provides mission control and supervision

for battalion units and the petroleum supply and distribution system. All operations are done to minimize environmental damage within the scope of the operational situation. The branch does this mission by —

- Developing and implementing training programs and educational development programs.
- Developing plans and supervising training.
- Planning, directing, coordinating, and supervising intelligence, counter-intelligence, and civil affairs programs.
- Developing and coordinating plans for OPSEC and defense.

Responsibilities. The petroleum sergeant (E7, 77F40) supervises the branch. His duties include —

- Preparing broad planning guidance, policies, and programs for command organizations, operations, and functions.
- Conducting safety and environmental risk assessments for existing and proposed operations.
- Developing policies and guidance for the training of the command and evaluating this training.
- Implementing the unit environmental stewardship program as it pertains to operations.
- Exercising staff supervision overall OPSEC activities.
- Managing the battalion security clearance program.

Personnel. Key security and plans personnel include —

- Intelligence Sergeant (E5, 96B20). Performs intelligence preparation of the battlefield. Provides technical advice to the staff on intelligence matters. Assists in writing the intelligence estimates for operations orders and plans.
- Multimedia Specialist (E4, 25M10). Prepares drawings for pipelines, terminals, and storage facilities.
- Administrative Clerk (E3, 71L10). Performs all administrative functions to include establishing and operating MARKS, and preparing branch correspondence.

Operations. This branch of the S2/S3 section operates in the same way as the security and plans branch of the headquarters and headquarters company, pipeline and terminal operating battalion. Section VI of Chapter 4 discusses the operations of that section.

Petroleum Operations Branch

This branch advises the commander and subordinate units on matters relating to the storage and distribution of bulk petroleum products within the battalion's

area of responsibility. The following paragraphs give details on the function of the branch.

Mission. The branch supervises the storage and distribution of petroleum products within the battalion's supply and distribution system.

Responsibilities. The petroleum operations officer (Captain, 92F00) supervises the supply and distribution of bulk petroleum products. He coordinates with the petroleum supply companies on site location, bulk receipts, and tank allocation. He monitors operations to make sure they are minimizing environmental damage within the scope of the operational situation.

Personnel. Key petroleum operations personnel include —

- Freight Movements Officer (Lieutenant, 88B00). Determines bulk fuel transportation requirements for tank trucks. May also determine requirements for fuel distributed by rail, air, and water transportation. Coordinates bulk petroleum movement by rail, highway, air, or water.
- Petroleum Operations Sergeant (E7, 77F40). Assists the petroleum operations officer.
- Petroleum Distribution Sergeant (E6, 77F30). Maintains dispatching operations on a 24-hour basis with the assistance of the petroleum inventory control sergeant.
- Dispatcher (E5, 88M20). Tracks and monitors petroleum tanker movements.
- Petroleum Inventory Control Sergeant (E5, 77F20). Maintains data on current bulk petroleum on-hand inventories. Additionally, maintains total ullage by terminal and fuel type. Assists the petroleum dispatch sergeant.
- Petroleum Inventory Control Specialist (E4, 77F10). Assists the inventory control sergeant in maintaining current petroleum supply records.
- Movements Specialists (E4, 88N10). Assist the transportation movements officer in coordinating the movement of fuel by means other than pipeline.
- Administrative Clerk (E3, 71L10). Performs all administrative functions to include establishing and operating MARKS, and preparing section correspondence.

Operations. The branch operates in much the same way as the petroleum operations branch of headquarters and headquarters company of the petroleum pipeline and terminal operating battalion. Chapter 4, Section VI.) However, there are some differences. The

branch will not coordinate, plan, and inspect construction of pipeline systems. It cannot do this because a construction supervisor is not assigned. Also, it does not have a technical drafting specialist to develop charts and graphs. However, a technical drafting specialist is assigned to the security and plans branch. He can be detailed to this branch if needed and required. Chapter 4, Section IX gives guidance on how to —

- Develop and maintain pumping schedules.
- Maintains dispatching records and controls.
- Develop loading schedules for bulk petroleum.
- Direct bulk petroleum transportation.
- Direct and supervise the reporting procedures from the battalion.
- Develop and control inventory procedures.

Petroleum Laboratory Branch

This branch advises the commander and subordinate units on matters related to petroleum quality surveillance and the operation of petroleum laboratories. The following paragraphs give details on the function of this branch.

Mission. This branch analyzes petroleum products received and stored in operating units. It also provides area petroleum laboratory support as directed. This branch operates a mobile petroleum laboratory. The laboratory can perform partial analysis testing for petroleum products. FM 10-72 describes mobile labs and their operation.

Responsibilities. The petroleum laboratory officer (Lieutenant, 92F00), directs the petroleum laboratory in inspecting and testing petroleum products.

Personnel. Key petroleum laboratory personnel include —

- Petroleum Laboratory Supervisor (E6, 77L30). Supervises the performance of standard physical and chemical tests on petroleum products. Evaluates test results to make sure they comply with federal and military specifications.
- Petroleum Laboratory Sergeant (E5, 77L20). Perform standard physical and chemical tests on fuel handled through the battalion pipeline distribution system.
- Petroleum Laboratory Specialist (E4, 77L10; E3, (3 each) 77L10). Performs actual testing of petroleum products under the supervision of the petroleum laboratory sergeant.
- Administrative Clerk (E3, 71L10). Performs all administrative functions to include establishing and operating the MARKS, and preparing branch correspondence.

Operations. This section functions in the same way as the mobile laboratory assigned to the headquarters and headquarters company, petroleum pipeline and terminal battalion. Chapter 4, Section VI gives more information.

Communications Branch

Mission. This branch provides communications support for the battalion and company headquarters. It also operates the battalion communications center. The section provides —

- Wire, radio, and high frequency digital/voice communications.
- Switchboard, message center, and net control station (NCS) services.

Responsibilities. The battalion communications and electronics officer (Captain, 25C00) is responsible for the operations of the communications branch. He supervises the installation, operations, and maintenance of the battalion communications system. In addition, he exercises technical supervision over communications personnel in subordinate units.

Personnel. Key communications personnel include —

- Section Sergeant (E7, 31U40). Supervises the soldiers assigned to the branch. Assist the C-E officer in the planning and execution of the communications plan.
- Senior Message/COMSEC Sergeant (E5, 31K20). Supervises the COMSEC equipment. Maintains accountability and serviceability of equipment.
- Radio Telecommunications Center Operator (E4, 74C10). Operates high frequency radio communications terminal.
- Wire Installers (E4, 31K10; E3, 31K10). Emplaces the communications wire to support the battalions wire net plan.

Operations. The communications support given by this branch requires it to perform the same duties as those of personnel in the communications section of the group headquarters. Chapter 3 outlines their duties. The branch —

- Develops a wire net plan. There are 16 TA-312 PT telephone sets dispersed throughout the detachment. Figure 3-2, page 3-18, shows the wire net plan.
- Installs and maintains field wire and switchboard.
- Recovers field wire.
- Establishes and operates in radio communications net. There are four secured radios dispersed throughout, the detachment. Figure 4-3, page 4-10, shows the FM radio net plan.

- Installs the two OE-254 antennas controlled by the branch.
- Operates an NCS.
- Provides radio-teletypewriter service. The branch has two teletypewriters.

- Provides switchboard service. The branch section has two SB-22/PT switchboards.
- Provides message center service.

Section VI S4 SECTION

MISSION AND RESPONSIBILITIES

The S4 officer supervises the S4 section. The section provides technical assistance on supply and maintenance to the units in the battalion. The S4's duties include —

- Ensuring section personnel coordinate with, advise, and assist the battalion and its units when the need arises.
- Directing section personnel in maintaining supply policies and levels.
- Planning, implementing, and monitoring pertinent portions of the unit environmental stewardship program.
- Directing personnel in preparing stockage lists and maintenance policies.

PERSONNEL

Effective operation of the section requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel include —

- Unit Maintenance Technician (Warrant Officer Two, 915A0). Provides technical advice and assistance on automotive equipment maintenance to the petroleum companies. Establishes the environmental stewardship program for maintenance operations. Monitors maintenance operations to ensure they are conducted safely and in accordance with pertinent environmental regulations.
- Engineer Equipment Repair Technician (Warrant Officer Two, 919A0). Provides technical advice and

assistance on engineer equipment maintenance to all assigned and attached units.

- Property Accounting Technician (Warrant Officer Two, 920A0). Manages the units property books. Provides the petroleum companies with technical assistance on organizational supply matters.

- Senior Maintenance Supervisor (ES, 63B50). Assists the companies in obtaining the necessary equipment and supplies needed by their maintenance sections. Coordinates the maintenance practices and procedures of the companies. Implements the environmental stewardship program in maintenance operations.

- Supply Sergeant (E7, 92Y40). Supervises the battalions internal supply functions. Plans, coordinates, and inspects unit and organizational supply operations. Supervises the preparation and maintenance of supply records of subordinate units. Assists the PBO.

- Assistant Supply Specialist (E4, 92Y10; E3, 92Y10). Assists the battalion supply sergeant.

- Administrative Specialist (E4, 71L10). Performs all administrative functions to include establishing and operating of the (MARKS), and preparing section correspondence.

OPERATIONS

Chapter 4, Section VI, gives guidance on section operations. It covers the operations of the S4 section of HHC, petroleum platoon and terminal operations battalion. This S4 section performs the same duties.

Section VII COMPANY HEADQUARTERS

MISSION

The company's mission is command and control of the battalion. It supervises administration, organizational supply, security, food service, and training activities.

RESPONSIBILITIES

The company commander (Captain, 92F) is responsible for the leadership, welfare, discipline, and training of all the soldiers in the company.

The company commander —

- Sets priorities and coordinates present and future missions of the company.
- Directs and supervises all technical operations and support activities that impact the headquarters operations.
- Ensures all required reports and data are prepared and transmitted to staff elements as required.

- Conducts safety and environmental risk assessments for each operation.

PERSONNEL

Effective operation of the headquarters requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel include —

- First Sergeant (ES, 77F5M). Assists the company commander in supervising the company.
- Supply Sergeant (E6, 92Y30). Requisitions, receives, stores, accounts for, and issues all classes of supply (except class IX) for the company. Manages hazardous material supply items IAW locally established procedures and regulations. Takes care of all of the supply functions of the unit. Manages supply items that are hazardous materials IAW local procedures and regulations.
- Light-Wheeled-Vehicle Mechanic (E4, 63B10). Augments the supporting unit assigned to provide organizational maintenance. Conducts maintenance IAW the units environmental stewardship program.

- Decontamination Specialist (E4, 54B10). Provide unit decontamination support to the company. Supervise the training of unit NBC personnel. Maintains organic NBC equipment and prescribed load list (PLL). Manages NBC-associated hazardous materials IAW locally established procedures and regulations.

- Personnel Administrative Specialist (E4, 75B10). Performs all administrative functions for the company. Inputs personnel actions using Standard Installation/Division Personnel System (SIDPERS).

- Armorer/Supply Specialist (E4, 92Y10). Maintains the unit small arms and assists the supply sergeant.

- Cook (E3, 92G10). Cooks and serves for unit personnel. Maintains and sanitizes assigned equipment. Augments supporting unit's food service section.

OPERATIONS

Company headquarters operations are the same as those of the headquarters and headquarters company, petroleum pipeline and terminal operating battalion. The scope of operations is the same. Chapter 3, section XII gives more information.

CHAPTER 6

ORGANIZATION AND OPERATIONS OF THE HEADQUARTERS AND HEADQUARTERS COMPANY, QUARTERMASTER BATTALION (WATER SUPPLY)

Section I THE ORGANIZATION

MISSION AND ASSIGNMENT

Headquarters and Headquarters Company (TOE 10466L0) provides technical and operational command and control for up to five assigned/attached companies and separate (water purification) detachments engaging in providing potable water support. The company is assigned to Headquarters and Headquarters Company, Quartermaster Group (Petroleum and Water), TOE 10602L0. It may be assigned to an independent corps in the absence of a petroleum and water group. The company operates in both the communications zone and combat zone of a theater army. It manages the production, storage, and distribution of bulk potable water.

CAPABILITIES

The unit's capabilities are determined by personnel strength levels and equipment authorization levels in its TOE.

This unit can—

Command two to five water supply companies, (TOE 10468L0); water purification detachments (TOE 10469L0); transportation companies (medium truck) (TOE 55727L1 or 55728L1); and as appropriate, water teams (TOE 10570L).

Extend and develop existing and proposed distribution systems.

Transport 33 percent of its TOE equipment and supplies in a single lift using its authorized organic vehicles.

ORGANIZATION

Figure 6-1 shows the company organization. Sections II through VII describe each element of the company and define mission and operational guidance for each section.

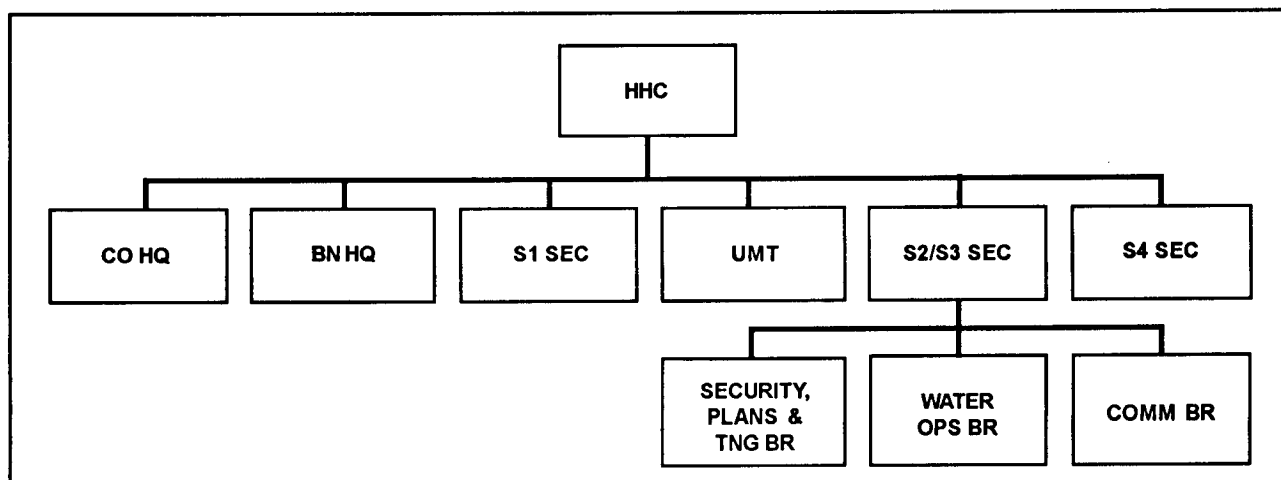


Figure 6-1. Organization of the headquarters and headquarters company, water supply battalion

Section II BATTALION HEADQUARTERS

MISSION

This section provides command and supervision for the battalion. It also commands and supervises assigned and attached units.

RESPONSIBILITIES

The battalion commander (Lieutenant Colonel, 92F00) provides command and supervision for the battalion and its assigned and attached units. He is in charge of the battalion and the bulk water purification, storage and distribution system. All technical operations and support activities connected with the system also come under his control. He plans all operations to comply with applicable state, local, national and host nation environmental protection laws to include conducting safety and environmental risk assessments for all operations. He conducts all operations with minimal environmental damage within the scope of the operational situation.

PERSONNEL

Effective operation of the headquarters requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel include—

- Executive Officer (Major, 92F00). Assists the commander in the accomplishment of the overall mission. Coordinates and directs the activities of the staff. Coordinates the unit environmental stewardship program.

- S1 Officer (Captain, 92F00). Directs the functions of the S1 section. Directs all technical administrative operations of the battalion and its assigned or attached units. Section III gives more on his responsibility.

- S2/S3 Officer (Major, 92F00). Directs the functions of the S2/S3 section. Plans, controls, and supervises the operation of the battalion's water production and distribution system. Administers pertinent portions of the unit environmental stewardship program. Key areas of interest are environmental stewardship training and environmentally sound land management. See TC 5-400 for details. Section V gives more on this responsibility.

- S4 Officer (Captain, 92F00). Directs the functions of the S4 section. Plans, coordinates, and supervises all supply and maintenance activities and other related logistical matters required to support the battalion. Section VII gives more details. Administers pertinent portions of the unit environmental stewardship program.

Key areas of interest are proper management of hazardous materials in supply-room, food service and maintenance operations, disposal of solid and liquid waste from food service operations, and environmentally sound maintenance practices. Communications-Electronic Staff Officer (Captain, 25C00). Plans and determines requirements for signal communications support and for use of signal communication equipment. Coordinates with the area signal officer as required. Section VI gives more on this responsibility.

- Communications-Electronic Staff Officer (Captain, 25C00). Plans and determines requirements for signal communications support and for signal communication equipment use.

- Chaplain (Captain, 56A00). Conducts religious activities for the battalion. Section IV gives more on his responsibility.

- Command Sergeant Major (E9, 00Z50). Serves as the principal enlisted assistant to the commander. This includes executing established policies and standards pertaining to the performance, care, conduct, appearance, personnel management, and training of enlisted soldiers. This includes—

- Providing advice and making recommendations to the commander and staff on all matters pertaining to enlisted soldiers and their families.

- Accompanying the commander on inspections, visits, and at ceremonies, or acting in his place in these capacities when directed by the Commander.

- Trains and directs subordinate NCOs.

- Ensures newly assigned soldiers are instructed in military courtesy, customs of the service, and command regulations or policies.

- Provides counsel and guidance to NCOs and other enlisted soldiers in the command.

- Inspects duties performed by subordinate NCOs.

- Assists in reception of visitors to the command.

- Sits as president or member of command promotion board for NCOs as authorized by regulation.

- Performs other duties prescribed by the commander. He may be responsible for discharging the duties listed above over long distances in a tactical environment. During tactical operations, the CSM should also act as the commander's representative in supervising aspects vital to the operation, as determined by the commander and himself. The CSM can

lead the quartering party during major movements or otherwise supervise movement of portions of the battalion headquarters. He can assist in or direct portions of CSS operations for the battalion headquarters, portions of which maybe spread long distances. He may act as a liaison to higher, adjacent and subordinate units, or with host nation assets, all of which may be located long distances from the battalion headquarters.

- Vehicle Driver (E3, 77W10). Drives for the commander. Maintains the commander's vehicles.

OPERATIONS

This battalion headquarters operates in the same way as the group headquarters command section of the Headquarters and Headquarters Company, Quartermaster Group (Petroleum and Water). Chapter 3 gives information on the operations of the command section. The

following operations should be performed in the same way as performed by the command sections:

- Plan and prepare for the deployment of the battalion.
- Direct water production, storage and distribution systems.
- Monitor the units.
- Monitor air defense priorities.
- Monitor tactical and technical performance of units.
- Plan and supervise religious activities.
- Plan and coordinate installation and use of communication equipment.
- Advise higher headquarters of operating situations and requirements.
- Plan all operations to comply with applicable national, state, local and host nation environmental protection laws.
- Conduct operations with minimal environmental damage within the scope of the operational situation.

Section III S1 SECTION

MISSION

The S1 section provides supervision, planning, and coordination for all administrative and personnel activities in the battalion. The section—

- Provides for the operation of a message center.
- Maintains an office of record.
- Publishes orders for the assignments of replacements within battalion headquarters and subordinate units.
- Provides for personnel management and classification. It also maintains liaison with the appropriate personnel services unit on personnel actions.
- Maintains liaison with the supporting finance direct support company on financial services.

RESPONSIBILITIES

The S1 officer (Captain, 92F00) supervises the S1 section. This section performs administrative and personnel functions of the battalion. The S1 officer advises the commander and other staff officers in these areas. The S1 officer supervises the following areas of responsibility:

- Unit strength maintenance.
- Personnel management.
- Manpower management.
- Discipline, law, and order.
- Medical support coordination.
- Labor service coordination.

- Morale support programs.
- SIDPERS transactions.
- Administrative support.
- Policy files and records.
- Command and public information advice to the commander.
- Legal assistance.
- Library services.
- Enemy prisoner of war processing.
- Command health and safety.

PERSONNEL

Effective operation of the section requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel assigned include—

- Personnel Sergeant (PSNCO) (E7, 75Z40). Serves as principal assistant to the S1. Supervises personnel management classification and assignment. Maintains liaison with the personnel service unit providing personnel service to the battalion.
- Administrative Sergeant (E5, 71L20). Assists the personnel staff NCO and supervises the clerk typist and records clerk.
- Legal Specialist (E4, 71D10). Maintains all legal paperwork in the battalion.

OPERATIONS

- Administrative Specialist (E4, 71L10). Performs all administrative functions to include establishing and operating (MARKS), and preparing section correspondence.
- Administrative Clerk (E3, 71L10). Performs administrative functions to include establishing and operating MARKS, and preparing section correspondence.

The section performs the same duties as the S1 section of the headquarters and headquarters company, quartermaster group (petroleum and water). Section III of Chapter 3 also discusses the operations of the S1 section headquarters and headquarters company, petroleum and water group.

Section IV UNIT MINISTRY TEAM

MISSION

The UMT provides for religious ministry, pastoral care, and moral and ethical well-being of the unit. It advises the commander and staff on matters of religion, morals, and morale.

RESPONSIBILITIES

This team's responsibilities are identical to the unit ministry team in the headquarters and headquarters company, petroleum pipeline and terminal battalion. Chapter 4 gives more information.

PERSONNEL

The battalion chaplain supervises the UMT. Personnel assigned to the UMT include the Chaplain Assistant (E4, 71M10). He performs or supervises the performance of specified elements of religious support in the battlefield or in garrison. He provides personal protection and administrative support to the battalion chaplain.

Section V S2/S3 SECTION

MISSION

This section is responsible for the intelligence, security, operations, and training necessary to support the battalion's critical wartime mission. This section plans and supervises the security of the battalion's area. It coordinates with the RAOC and the headquarters and headquarters commander to implement a rear area security plan. The S2/S3 is responsible for the production of intelligence, and counterintelligence and intelligence training and security. It is responsible for communications, communications security, and relaying, on request, local weather observations. This section also directs activities pertaining to organization, operations, training, and deployment readiness for subordinate units. The four branches assigned to the section are a security, plans, and training branch, petroleum operations branch, mobile laboratory branch and the communications branch. The four branches assigned to the section are a security and plans branch, water operations branch, and the communications branch.

RESPONSIBILITIES

The S2/S3 officer (Major, 92F00) supervises the S2/S3 section. He supervises the organizational training

and employment of assigned and attached units. He also supervises the security and plans branch; water operations branch, communications branch; and water support branch. He administers pertinent portions of the units environmental stewardship program. Key areas of interest are environmental stewardship training programs and environmentally sound land management. TC 5-400 gives more details.

PERSONNEL

Effective operation of the section requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel include—

- Operations Sergeant (E5, 77F50). Assists the S2/S3 and manages the first shift.
- NBC Operations/Staff NCO (E7, 54B40). Assists in planning and applying NBC defense measures for subordinate units. Coordinates decontamination operations. Monitors handling of NBC related hazardous materials.
- Water Treatment Specialist (E4, 77W10). Plans and supervises a program for quality surveillance of bulk water supply within the battalion.

- **Administrative Specialist (E4, 71L10).** Performs all administrative functions to include establishing and operating the MARKS, and preparing section correspondence.

- **Vehicle Driver (E3, 77W10).** Maintains the vehicles assigned to the S2/S3. Performs duties as primary vehicle operator. Assists the operations sergeant and water treatment specialist.

OPERATIONS

The S3 officer makes sure the branches are performing their duties in a coordinated and systematic way. The operations sergeant plans and supervises a water quality surveillance program for the battalion. Water purification teams and detachments in subordinate water supply companies will use this program as a guide when testing potable water. He monitors operations to ensure minimal environmental damage within the scope of the operational situation.

ORGANIZATION

The S2/S3 section is organized into three branches to accomplish its mission. The branches are responsible for specific functions which are described in the following paragraphs.

Security and Plans Branch

This branch advises the commander and subordinate units on matters relating to training in peacetime, and security during tactical operations. The following paragraphs give details on the branch function.

Mission. This branch plans, controls, and supervises the security, deployment, employment, training, and operation of the battalion. It plans all operations to comply with applicable national, state, local, and host nation environmental laws. It also monitors operations to ensure they are being conducted with minimal environmental damage within the scope of the tactical situation. The branch also provides mission control and supervision for battalion units and the water production and distribution system. The branch carries out this mission by—

- Developing and implementing training programs and educational development programs.
- Developing plans and supervising training.
- Planning directing, coordinating and supervising intelligence, counterintelligence, and civil affairs programs.
- Developing and coordinating plans for OPSEC and defense.

Responsibilities. The security and plans officer (Lieutenant, 92F00) sees that the battalion is correctly deployed. He supervises the development of tactical plans and training plans for the battalion personnel. He also supervises security of the water production and distribution systems and the unit perimeter. His duties require him to—

- Develop policies and guidance for training.
- Evaluate training.
- Supervise intelligence, security, and defense activities.
- Prepare broad planning guidance, policies, and programs.

Personnel. Key personnel include—

- **Intelligence Sergeant (E5, 96B20).** Coordinates the planning and security activities of the water supply companies.
- **Administrative Specialist (E4, 71L10).** Performs all administrative functions to include establishing and operating the MARKS, and preparing branch correspondence.

Operations. This branch's operations are similar to that of the S2/S3 section of HHC, quartermaster group (petroleum and water). Chapter 3 covers these operations.

Water Operations Branch

The branch advises the commander and subordinate units on matters relating to water supply. The following paragraphs give details on the function of the branch.

Mission. This branch supervises water production, storage, and distribution of potable water within the battalion's supply and distribution system.

Responsibilities. The water operations officer (Captain, 92F00) supervises the production, storage and distribution of bulk potable water. He coordinates with the water supply companies on site locations, transportation and water requirements. He monitors operations to ensure they are minimizing environmental damage within the scope of the operational situation.

Personnel. Key personnel include—

- **Freight Movements Officer (Lieutenant, 88B00).** Determines transportation requirements for bulk fuel distributed by tank truck. May also determine requirements for fuel distributed by rail, air, and water transportation. Coordinates the movement of bulk petroleum products by rail, highway, air, or water.

- Water Operations Sergeant (E7, 77W40). Assists in supervising the production, storage and distribution of bulk potable water.
- Dispatcher (E5, 88M20). Tracks and monitors petroleum tanker movement.
- Water Inventory Control Sergeant (E5, 77W20). Maintains data on current potable water on-hand inventories.
- Water Inventory Control Specialist (E4, 77W10). Assists the inventory control sergeant in maintaining current bulk potable water supply records.
- Water Treatment Sergeant (E5, 77W20). Receives status reports from all water production sources. Maintains potable water production records.
- Water Treatment Specialist (E4, 77W10). Assists the operations officer and water treatment sergeant.
- Administrative Clerk (E3, 71L10). Performs all administrative functions to include establishing and operating MARKS, and preparing branch correspondence.

Operations. This branch operates in much the same way as the petroleum operations branch of the HHC, quartermaster battalion (petroleum supply), discussed in Chapter 5, Section VI. In addition it works with the group's water plans, requirements and distribution section and host nation agencies for coordination of US and allied forces for potable water support. This includes operational planning for development, rehabilitation, and extension of potable water purification, storage and distribution systems and transportation assets for movement of bulk water. It monitors operations to ensure they are being conducted with minimal environmental damage within the scope of the operational situation. The branch performs the following specific functions—

- Detailed planning for water purification, storage, and distribution of potable water.
- Coordinates with the engineer command for the detection of subsurface water; well drilling, and construction, repair, and maintenance of water support facilities.
- Assists the battalion S4 in evaluating the battalion's water support equipment readiness.
- Provides operational guidance to all water purification, storage, and distribution units within the communications zone.
- Supervises the movement of bulk potable water within the transportation companies to ensure the deliveries support the theater water support plan.

- Plans all operations to comply with applicable national, state, local, and host nation environmental protection laws.

Communications Branch

The branch advises the commander and subordinate units on maintaining effective communications. The following paragraphs give details on this function.

Mission. This branch provides communications support for the battalion and company headquarters. It also operates the battalion communications center. This includes the following:

- Wire, radio, and high frequency digital/voice communications.
- Switchboard, message center, and NCS services

Responsibilities. The battalion communications and electronics officer (Captain, 25C00) supervises communications branch operations. He supervises the installation, operations, and maintenance of the battalion communications system. In addition, he exercises technical supervision over communications personnel in subordinate units.

Personnel. Key personnel include—

- Section Sergeant (E7, 31U40). Supervises the soldiers assigned to the branch. Assists the CE officer in the planning and execution of the communications plan.
- Single Channel Radio Operators (E4, 31C10; E3, 31C10). Operates the tactical secure FM radio net. Provides communication support between battalion headquarters, group headquarters, and subordinate units.
- Signal Information Service Specialists (E5, 31U20; E4, 31U10). Installs and maintains battalion MSE, SINCGARS, and AM HF digital and voice equipment. Additionally, responsible for installation and configuration of battalion computer systems.
- Signal Support System Specialist (E4, 31U10). Installs and maintains the battalion telephone and wire system. Operates the battalion message center once systems are installed.

Operations. This branch operates the same as the communications section of the HHC petroleum pipeline and terminal operating battalion. Their duties are outlined in Chapter 4. The branch—

- Develops a wire net plan. Figure 6-2 shows an example plan.
- Installs and maintains field wire and switchboard.
- Recovers field wire.
- Establishes and operates a radio communications net. Figure 6-3, page 6-8, shows an example radio net plan.

- Installs the two OE-254 antennas controlled by your section.
- Provides high frequency radio service.

- Provides switchboard service. The branch has two SB-22/PT switchboards.
- Provides message center service.

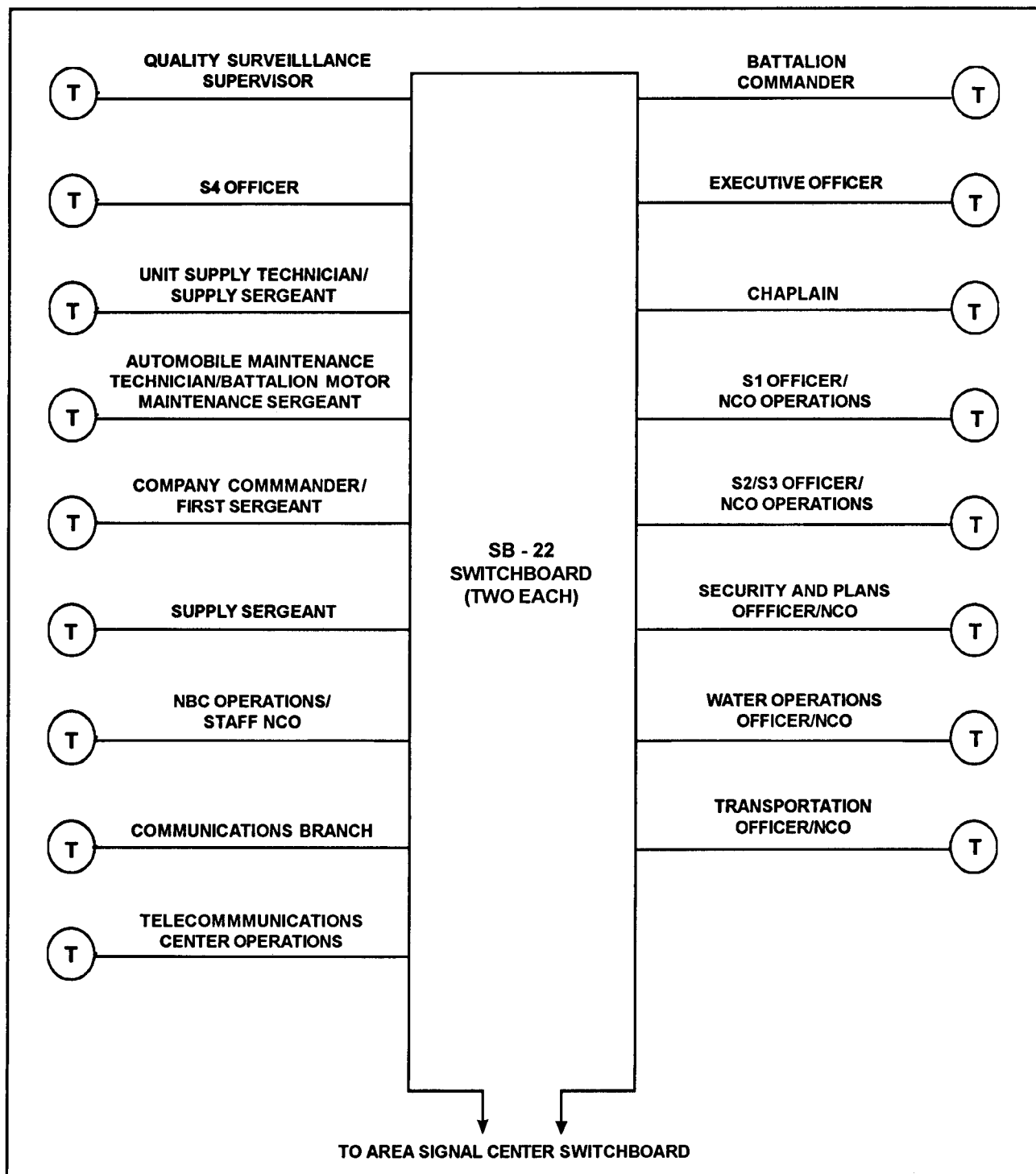


Figure 6-2. Wire net plan, headquarters and headquarters company, quartermaster battalion (water supply)

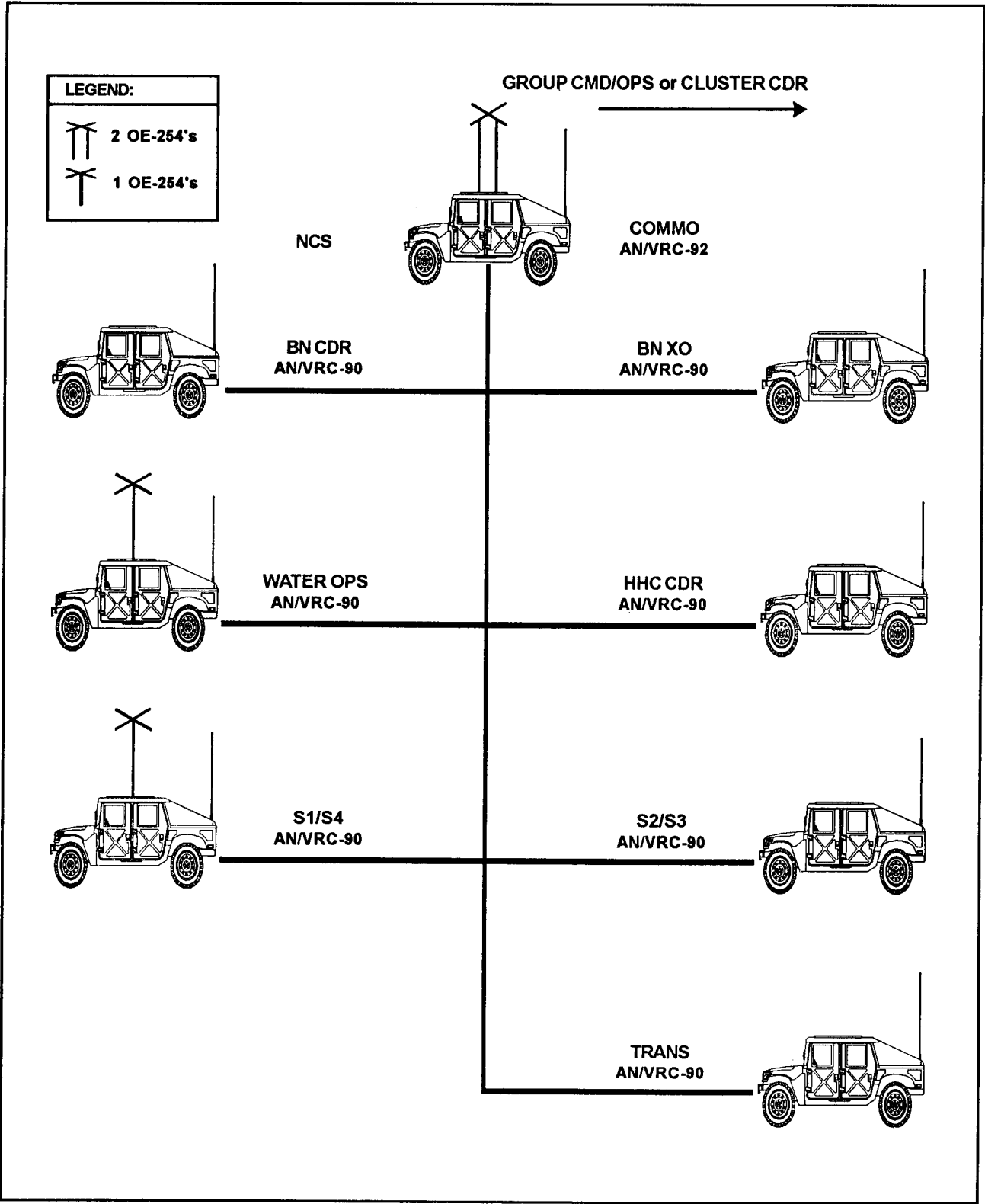


Figure 6-3. Water supply battalion net (SINCGARS)

Section VI S4 SECTION

MISSION AND RESPONSIBILITIES

The S4 (Captain, 92F00) supervises the operations of the S4 section. He provides technical assistance on supply and maintenance to the units in the battalion. He is also responsible for the overall coordination, advice, and assistance the section gives to the battalion and its units. He directs the actions they take on maintaining supply policies and levels. He also directs them in maintaining stockage lists, maintenance policies and inspection, and financial management information. He is responsible for administering pertinent portions of the unit environmental stewardship program. Key areas of interest for the S4 include proper management of hazardous materials in supply room, food service, and maintenance operations, disposal of solid and liquid wastes from food service operations, and environmentally safe maintenance procedures.

PERSONNEL

Effective operation of the section requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel include—

- Unit Maintenance Technician (Warrant Officer Two, 915A0). Provides technical advice and assistance on maintenance of automotive equipment to the petroleum companies. Establishes an environmental stewardship program for maintenance. Monitors maintenance activities to ensure they are conducted with minimal environmental damage.
- Property Accounting Technician (Warrant Officer TWO, 920A0). Manages the units' property books. Provides

the petroleum companies with technical assistance on organizational supply matters.

- Senior Maintenance Supervisor (E8, 63B50). Assists the companies in obtaining the necessary equipment and supplies needed by their maintenance sections. Coordinates the maintenance practices and procedures of the companies. Implements the unit environmental stewardship program in maintenance activities.

- Supply Sergeant (E7, 92Y40). Supervises the battalion's internal supply functions. Plans, coordinates, and inspects unit and organizational supply operations. Supervises the preparation and maintenance of supply records of subordinate units. Manages hazardous material supply items IAW with locally established procedures and regulations.

- Property Book Sergeant (E5, 92Y20). Inputs data into the automated property book. Assists the property book officer (PBO) in the conduct of his mission.

- Supply Specialists (E4, 92Y10; E3, 92Y10). Assist the battalion supply sergeant.

- Administrative Specialist (E4, 71L10). Performs all administrative functions to include establishing and operating MARKS, and preparing section correspondence.

OPERATIONS

This section performs the same duties as the S4 section of the HHC, petroleum pipeline and terminal operating battalion. For guidance in performing your operations, see Section VII of Chapter 4.

Section VII COMPANY HEADQUARTERS

MISSION

The company headquarters provides administration, food service, organizational supply, maintenance, security, discipline, and training activities for the unit.

RESPONSIBILITIES

The company commander (Captain, 92F) is responsible for the leadership, welfare, discipline, and training

of all the soldiers in the company. The company commander—

- Sets priorities and coordinates present and future missions of the company.

- Directs and supervises all technical operations and support activities that impact the headquarters operations.

- Ensures all required reports and data are prepared and transmitted to staff elements as required.
- Conducts safety and environmental risk assessments for each operation.

PERSONNEL

Effective operation of the section requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel include—

- First Sergeant (E8, 77F5M). Assists in supervising the operation of the company headquarters.
- Supply Sergeant (E6, 92Y30). Issues and maintains organizational clothing and equipment. Maintains property records. Manages hazardous material supply items IAW locally established procedures and regulations.
- Decontamination Specialist (E3, 54B10). Provides unit decontamination support to the company. Supervises the training of unit NBC personnel. Maintains the company's organic NBC equipment and PLL. Manages NBC-related hazardous materials IAW locally established procedures and regulations.

- Personnel Administrative Specialist (E4, 75B10). Performs all administrative functions for the company. Inputs personnel actions using SIDPERS.

• Light Wheeled Vehicle Mechanics (E4, 63B10) Augments the subordinate unit assigned to provide organizational maintenance. Conducts maintenance IAW the units established environmental stewardship program.

- Armorer/Supply Specialist (E4, 92Y10). Maintains the unit small arms and assists the supply sergeant.
- Cook (E3, 92G10). Augments supporting unit's food service section.

OPERATIONS

This company headquarters has the same mission as the company headquarters of the HHC, petroleum pipeline and terminal battalion. Commanders and staff sections should follow the guidance in Chapter 4, Section VII..

CHAPTER 7

ORGANIZATION AND OPERATIONS OF THE QUARTERMASTER PETROLEUM LIAISON TEAM

Section I

THE TEAM

MISSION AND ASSIGNMENT

The Quartermaster Liaison Team (Petroleum) (TOE 10560LM00) provides and coordinates bulk petroleum support between US forces, allied forces, host nations and the petroleum group. The liaison team communicates available bulk petroleum data to higher headquarters, recommends mode of transportation, evaluates the compatibility of existing US Army equipment, and ensures proper quality surveillance procedures are used to meet US military standards. The team is normally assigned to the Headquarters and Headquarters Company, Petroleum Group, TOE 10602L0. The team operates primarily within the COMMZ; however, it may be required to assist units within the combat zone or outside the COMMZ interfacing with bulk petroleum suppliers throughout the region. These teams can also provide limited support for the bulk water distribution mission within the theater or corps. These teams can coordinate with customers for both bulk petroleum and water support.

CAPABILITIES

The unit's capabilities are determined by the personnel strength levels and equipment authorization levels given in its TOE. This unit can —

- Deploy up to three, 2-man, quality surveillance sections to support remote sites.
- Deploy to more than one country in support of the theater petroleum and water distribution plan.
- Recommend extension and development to existing and proposed distribution systems.

- Coordinate the movement of bulk petroleum and water products by means other than pipeline, such as barge, rail, hoseline, and truck.
- Supervise a program for quality surveillance of petroleum products.
- Transport 100 percent of its TOE equipment and supplies in a single lift using its authorized organic vehicles.

ORGANIZATION

Figure 7-1, page 7-2, shows the team organization. There are three individual petroleum liaison sections assigned to the team. Each section is identical in staffing, equipment, and mission.

PERSONNEL

The team commander (Lieutenant Colonel, 92F00) provides command and control for the team. Key personnel include —

- Petroleum Sergeant (ES, 77F50). Serves as the senior enlisted advisor to the team commander.
- Water Liaison Sergeant (E7, 77W40). Coordinates with host nation personnel for the production and distribution of bulk water throughout the theater.
- Petroleum Requirements Sergeant (E7, 77F40). Coordinates with the customers on all requirements identified to the petroleum group and forwarded to the JPO. Validates requirements of all services.
- Staff Movements Sergeant (E7, 88N40). Provides technical support to sections relating to mode of travel of bulk petroleum products.

ORGANIC SUPPORT

- Petroleum Inventory Control Specialist (E5, 77F20). Maintains records on total petroleum products available from the host nation petroleum suppliers or DFSC supply points.

- Personnel Administrative Specialist (E4, 75B10). Performs administrative functions to include establishing and operating MARKS, and preparing section correspondence. Inputs team actions using SIDPERS.

The team has very limited organic life support capability. It depends on a supporting/host unit to provide it with all classes of supply, organizational maintenance, and some administrative support. Since the team does not have the normal detachment/company organizational structure, duties normally associated with supply, arms room, maintenance, and training are assigned to the team soldiers as an additional duty. Unit has necessary equipment to support remote communication.

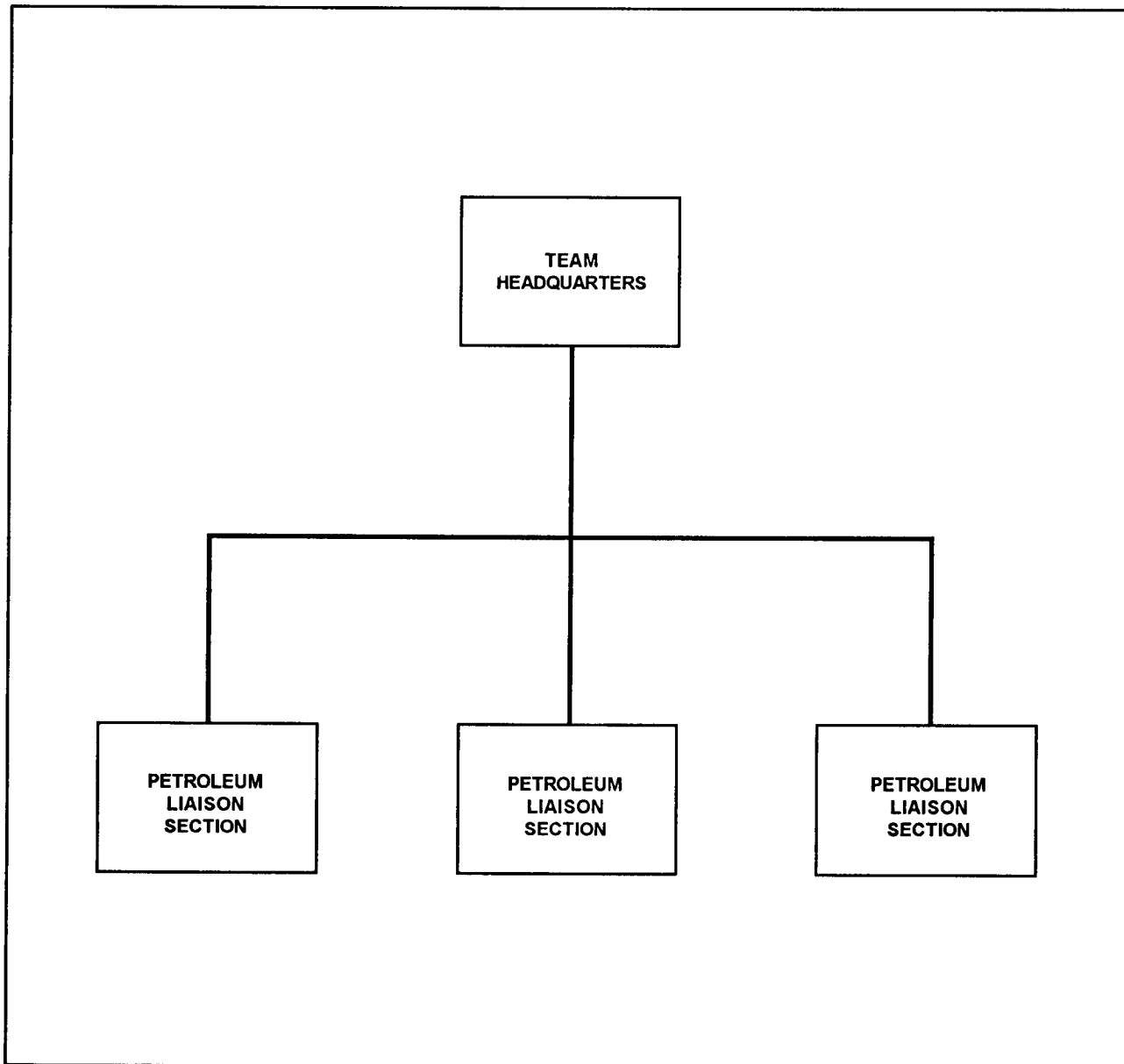


Figure 7-1. Organization of the headquarters quartermaster liaison team (petroleum)

Section II PETROLEUM LIAISON SECTIONS

PERSONNEL

Effective operation of the section requires identifying key personnel and understanding their primary duties and responsibilities. Section personnel include —

- Petroleum Officer (Captain, 92FOO). Serves as section OIC. Provides command and control and coordinates section life support. Performs official functions as required by host nation or tradition dictates.
- Petroleum Laboratory Sergeant (E7,77L40). Serves as NCOIC and section technical expert.

RESPONSIBILITIES

The section is capable of performing the following critical functions:

- Observe and validate quality assurance checks by the vendor and/or laboratory.
- Ensure all petroleum laboratory testing is done IAW ASTM and FTMS 791.
- Ensure all test results are documented and provided to the Class III GS activity.
- Coordinate with host nation petroleum assets for receipt of petroleum products into US military control.

- Provide technical assistance to all theater units relating to bulk petroleum as needed.

- Assist theater units with planning considerations relating to petroleum spills.

- Provide a link between the petroleum and water group commander and the theater or corps staff as directed by the group commander.

- Provide limited quality surveillance to the theater using organic ground and aviation fuel testing equipment.

OPERATIONS

The section deploys as required. It must be prepared to support the theater in any type of contingency. As the group forward element, the section is the group commander's "eyes and ears" for petroleum and water issues. Also, during the mission, the section represents the United States; therefore, the sections' actions could have a great impact (both positive and negative) on our war efforts.

CHAPTER 8

FORCE PROJECTION, DEPLOYMENT, DEFENSE, SAFETY, AND TRAINING

Section I FORCE PROJECTION

CONCEPT

Force projection operations continue to challenge the services into the future. The force must be able to deploy into any environment during hostilities and in operations other than war. This places a great demand on logisticians. They must be mentally agile, decisive, and operationally creative.

FORCE PROJECTION CONSIDERATIONS

One of the major functions of any unit is to provide effective force projection capabilities. To do this, units must consider the following factors —

- **Supported Force.** A major item to consider in planning the fuel and water distribution system for a theater is the type and capability of supported forces. Consumption factors also greatly increase as the level of war increases.
- **Preplanning.** Bulk petroleum and water units must be able to “see” the battlefield. They must be able to work with OPORDs to determine what the units need.
- **Decisions and Teamwork.** Decisions must sometimes be made before the whole situation is known. Considering this and the streamlined force, units must work together on transportation and other deployment needs to do the mission.
- **Intelligence.** With the US forces coming into an area, the unit intelligence officers must quickly get critical intelligence information. They must determine the threat to logistical bases. Units must be aware that the tactical operational environment is extremely volatile. They must protect the force and supplies. Peacetime planning improves the success rate. Some force projection

missions can be planned ahead of time. In these cases, preplan these areas.

- **Battle Command.** Mental agility determines the success of the command within the force-projection arena. With situations changing quickly, maneuver commanders must adapt to any situation. The logistical commanders feel the same stress as the maneuver commanders. To succeed, logistical commanders must know the logistics principles and understand the maneuver commander’s intent. All commanders require secure, reliable, and versatile communications.

- **Logistics.** Units must be able to deploy, employ, and redeploy logistical assets quickly. Logistical units are often the first forces to deploy (in operations other than war), and the last forces to redeploy. The USAR has most of the bulk petroleum and water units. These units will deploy later than active forces.

- **Training.** Before a deployment occurs, units may not have the time to train personnel. Therefore, units must train during normal peacetime operations. Training must go on all the time. Before deployment, commanders must ensure training is “war focused and directed toward meeting the unit METL. Upon deployment notification, commanders must refocus their training to the area of operation. During deployment and employment, training continues on job-related and survivability tasks. After redeployment, commanders must address lessons learned from the deployment. They must reevaluate their METL and train for their next deployment.

- **Combined Operations.** Force projection operations are inherently joint. Also, with the deployments to

“Operation Desert Shield/Storm” and “Restore Hope,” combined operations are becoming more frequent and probable. US forces must be prepared to fight side by side with allied and coalition forces. Logisticians must be prepared to support these forces as well. Knowing the capabilities and limits of the allies will help to perform the mission. Units must be prepared to provide bulk petroleum and water support to any force within the area of operation.

• **Media Impact.** Mass media can provide “realtime” satellite coverage of any operation. This puts a greater stress on all leaders. Leaders must ensure sensitive operations are protected from disclosure. This is critical to the mission. Logisticians will be operating in an area with a huge number of media personnel. They

must be able to maintain operational security while supporting the first amendment rights of the media.

• **Post-Conflict Considerations.** After hostilities, units must account for supplies. This is a critical area. Equipment must be identified, retrofitted, and returned to the inventory. This ensures that any future operations can be supported.

FORCE PROJECTION OPERATIONS

Although force projection operations vary in scope and intensity, all operations follow a general sequence. Usually, the whole purpose of the operation is not known; therefore, some areas may overlap in space and time. For more information on operations, FM 100-5, Chapter 3, gives guidance.

Section II DEPLOYMENT

PREPARATION FOR MOVEMENT

The uncertainty of the post-Soviet era and regional conflicts demand that the unit be ready to move at any time and by any means. The limited deployments to Grenada, Panama, and Somalia and the full mobilization for “Desert Shield/Storm” show the diverse arena where US forces may be deployed. The potential for more deployments is great. Therefore, leaders must plan and prepare a deployment plan for their mission requirements. The planning phase must fully consider that the unit will comply with national, state, local, and host nation environmental protection laws. Obviously, the level of the conflict into which the unit is deploying affects how closely environmental regulations will be followed. However, environmental regulations will be fully enforced and followed, particularly in operations other than war and in limited conflicts. Therefore, plans must consider the full enforcement of environmental regulations in the theater of operations. Plans should include using ground transportation assets for intratheater displacements. However, air or water transportation for selected elements within your unit may be used.

STANDARD OPERATING PROCEDURES

The unit should have a deployment SOP. As a minimum, it should cover the following information:

- Plans for all 1 types of movements, to include the method of requesting additional vehicles or aircraft.
- Plans for a tactical and garrison environmental stewardship program.

• Plans for loading organic vehicles. It should also cover other modes of transportation.

• Instructions for conducting reconnaissance of the route to be traveled and the new area.

• Plans for displacing all or part of the group or battalion.

• Procedures for closing operations at the old area.

• Plans for the march, such as for feeding personnel and refueling vehicles. These plans should also include steps for performing organizational maintenance en route and getting road clearances.

• Plans for defending the unit.

ORDERS

The group S2/S3 gives a warning or operation order to subordinate units. The operation order tells the units about the move. The battalion S2/S3 issues a movement order. It tells the elements of the battalion operating within the theater or COSCOM when to move. When the movements section within the theater or corps area gives the word, the battalion S2/S3 and group S2/S3 issue a movement operations order to the units. The commanders then complete their plans. They get the units ready to move on the scheduled date.

RECONNAISSANCE

The group commander assigns the general operating area for the battalions. The group S2/S3 officer assembles

the reconnaissance team. The reconnaissance team should include the commander, the signal officer, NBC officer or NCO, a representative from the operations branch, the battalion commander, and their unit commanders. There are several ways to checkout the route and the new area. Because of hostile forces, time, or other circumstances, sometimes the only way an area can be checked is by map reconnaissance. If there is no immediate danger from hostile forces and time and circumstances permit, the route can be traveled and the area visited. If air transportation is available, the reconnaissance team can do an aerial reconnaissance to supplement or substitute for other forms of reconnaissance. Aerial photographs may also supplement map and ground reconnaissance. FM 55-30 gives infor-

mation on motor movement. FMs 55-12 and 55-40 give information on air movement.

SITE SELECTION

The commander and staff should choose an operating site. They should also select an alternate site for the group and/or battalion headquarters. However, these actions should be coordinated with the base cluster commander, who will identify potential real estate for use by the headquarters. Once a general operating area is chosen, it should be secured. Temporary defense positions should be set up. Directional signs should be posted. Guides should be assigned to direct units as they enter the area. The battalion S2/S3 officer and the unit commanders then will select the general operating areas for their units.

Section III DEFENSE

PRINCIPLES

Defense is the first priority at a new site. Ensure the defensive plan complements the RAOC plan. Principles of defense are the same for combat, combat service, and CSS units. The unit is normally positioned behind supported units, normally in the COW or corps areas of a theater. There should be little chance of being attacked from the front. However, the enemy often harasses supply activities with small army elements or with unconventional forces. CSS units must defend themselves against a Level I threat. Close coordination with other units within the base cluster will help achieve this goal.

PLANS

The commander is responsible for the security and defense of the personnel, equipment in the unit, as well as assigned and attached units. The S2/S3 executes all security actions. He works closely with the commander when developing his defensive plans. See Chapter 3, Section V; Chapter 4, Sections V and VI; and Chapter 5, Sections V and VI. These sections describe conventional and NBC defense responsibilities. They also refer to other manuals for further details.

SOP

Unit defensive operations should be a unit SOP. As a minimum, the SOP should cover —

- Warning system.
- Means of communication.

- Assignment of specific responsibilities and defense areas of each element of the unit.
- Individual and unit defense measures for different situations.
- Provisions for training and rehearsals.
- Provisions for a fire-fighting crew.

Camouflage

Operations can be camouflaged by hiding, blending, or disguising them. Each section leader must be responsible for the camouflage of his unit. This includes camouflaging correctly and enforcing camouflage discipline. FM 5-20 gives detailed instructions on camouflage.

Light Discipline

Troops should be trained to work quietly and with little or no light. Darkness often provides the best camouflage for unit activities. This includes activities such as maintenance, resupply operations, and convoy movements.

Air Defense

Camouflage and night operations provide for passive air defense. The only weapons CSS units have are small arms weapons. They should be trained to fire them as a group at attacking aircraft as an active air defense.

PRIORITIES

The first priority of any unit moving to a new site is defense. A defense cannot be set up all at once. It must be based on priorities. This priority sequence is given in Table 8-1.

Table 8-1. Priority sequence

1. ESTABLISH SECURITY (OUTPOSTS/PATROLS).
2. POSITION KEY WEAPONS.
• COORDINATE WITH UNITS ON LEFT AND RIGHT FLANK.
• CLEAR FIELDS OF FIRE AND IDENTIFY DEAD SPACE.
3. ESTABLISH AN FPF LINE AND IDENTIFY A PRINCIPAL DIRECTION OF FIRE FOR CREW-SERVED WEAPONS.
4. PREPARE INDIVIDUAL FIGHTING POSITIONS.
• CHECK SECTORS OF FIRE.
• CHECK OVERHEAD COVER AND CONCEALMENT FROM THE FRONT AND ABOVE.
• DEVELOP A SECTOR SKETCH.
5. ESTABLISH COMMUNICATIONS.
6. EMPLACE OBSTACLES.
7. SELECT/PREPARE ALTERNATE AND SUPPLEMENTARY FIGHTING POSITIONS.
8. ACTIVATE A REACTION FORCE.

REAR AREA PROTECTION

RAP makes the best use of the defensive strength of the unit. It also helps to prevent interruptions of the unit mission. The two functions of RAP are rear area security and area damage control.

RAS

This includes steps taken to reduce the effects of an infiltrating guerrilla action, sabotage action, or enemy attack. These steps may be taken before, during, or after enemy action.

ADC

This includes steps taken before, during, or after an enemy action or natural man-made disaster to control area damage. The unit defense plan should include an ADC plan designed to keep down casualties and destruction and to speed recovery and renewal of petroleum supply support. During an attack or a disaster, survival and first aid to casualties are the first priorities. After the attack is over, casualties are treated and evacuated. Damage is determined. Then, petroleum supply operations start again. FM 90-14 gives more details on RAP.

NBC DEFENSE PLAN

A unit must be able to continue its operations after an NBC attack. The unit must be trained and ready to perform its mission under such conditions. All leaders and soldiers must be familiar with the NBC annex of the field SOP. As a minimum, this annex should cover —

- Actions before, during, and after an NBC attack.
- Conducting decontamination operations.
- Crossing radiological- or chemically-contaminated area.
- Conducting radiological monitoring and survey.
- Conducting chemical detection and survey.

NBC RESPONSIBILITIES

Keeping a battalion or group ready for operations in an NBC environment requires planning. Staff members must take an active part in this planning. Each staff member should consider the effects of an NBC environment on his specific functions. Each should ensure that operations in an NBC environment are covered in his portion of the unit's field SOP.

S1 Officer

The S1 Officer —

- Plans for personnel replacements. Units may have many casualties in short periods of time.
- Plans for medical support to treat the wounded.
- Makes sure that units know what to do with the dead. At times, the situation prevents evacuating them to mortuary affairs collection sites.

S2/S3 Officer

The S2/S3 Officer —

- Collects information on the possibility of an NBC attack through intelligence channels.
- Coordinates NBC survey, reconnaissance, and decontamination operations.

- Ensures NBC reports are submitted IAW field SOP.
- Considers how the restrictions of an NBC environment will affect the mission. Then, he plans and conducts operations accordingly.
- Plans and conducts NBC defense training in the battalion.
- Recommends the appropriate MOPP level.
- Requests and assigns special units, detachments, or teams needed to support NBC defense activities. This allows battalion and group units to carry out their missions.

S4 Officer

The S4 Officer —

- Makes sure that battalion and group units (especially forward elements) have supplies and equipment needed for NBC defense. These supplies include individual and unit protective clothing and equipment. They also include detection and warning devices and decontamination supplies and equipment.
- Ensures that supplies are available. The S4 makes sure that battalion and group units can replace supplies that may be contaminated or destroyed by an NBC attack.

- Coordinates maintenance activities to determine which repairs can be made in an NBC environment.
- Considers problems when equipment is contaminated.
- Considers the need for more vehicles or for more control of available vehicles. He does this when battalion and group elements are widely dispersed because of an NBC threat.

MISSION- ORIENTED PROTECTIVE POSTURE

The concept of MOPP was developed to help commanders decide how much protective equipment their personnel should wear in a chemical warfare environment. The amount of protection required depends on the threat, the work rate, and mission. MOPP allows personnel to continue the mission while receiving maximum protection from NBC hazards. FM 3-4 gives information on analyzing MOPP requirements for the units.

Section IV SAFETY

SAFETY PRECAUTIONS

Safety is a primary concern for any commander. All units should have a safety SOP. SOPs for petroleum units should emphasize the unique hazards involved with handling petroleum products. FM 10-69 has examples of typical safety requirements to be included in the SOPs. The SOPs should also include information on fire hazards, tire drills, tire fighting, and health hazards. The chemicals used by both water purification and petroleum laboratory sections produce safety considerations to personnel and to the environment. Plans must include the proper storage and disposal of these hazardous chemicals. All leaders should use the risk assessment matrix in Figure 8-1, page 8-6. Using risk

assessment during the planning stages of an exercise will reduce the possibility of loss of life and/or equipment during the execution phase of the mission.

PHYSICAL HAZARDS

There are some physical hazards involved in handling POL. They come from unsafe working conditions and using equipment incorrectly. Hazards also come from equipment that is unsafe or poorly maintained. Supervisors can eliminate these hazards by ensuring safety practices are followed. They should also ensure equipment is maintained properly. Supervisors should ensure all personnel are strictly supervised.

Section V TRAINING

RESPONSIBILITIES

The group or battalion commander is responsible for keeping the unit ready to do its job at any time and under any conditions. This requires constant training. The commander takes an active part in making the

plans for unit training. Figure 8-2, page 8-7, gives the steps in developing a training program. The S2/S3 officers, company or detachment commander, and trainers setup and carry out planned training programs.

				PROBABILITY			
				FREQUENT	LIKELY	OCCASIONAL	UNLIKELY
				A	B	C	D
SEVERITY	DAMAGE	INJURY		A	B	C	D
	CATASTROPHIC	DEATH/ MAJOR INJURY	I	E	E	H	M
	CRITICAL	LOST TIME INJURY	II	E	H	M	M
	MARGINAL	MINOR INJURY	III	H	M	M	L
	NEGLIGIBLE	FIRST AID	IV	M	M	L	L

RISK LEVELS

E = Extremely High Risk M = Medium Risk
H = High Risk L = Low Risk

- PRELIMINARY RISK LEVEL FOR THIS TASK: E H M L
- SIGNATURE OF APPROVING AUTHORITY _____
 POSITION: _____ GRADE: _____ DATE: _____
 VARIABLES: _____

- RISK LEVEL AT THE TIME THIS TASK IS PERFORMED: E H M L
- SIGNATURE OF APPROVING AUTHORITY: _____
 POSITION: _____ GRADE: _____ DATE: _____
- SAFETY OFFICE COORDINATION IF REQUIRED: _____
 POSITION: _____ GRADE: _____ DATE: _____

Figure 8-1. Risk assessment matrix

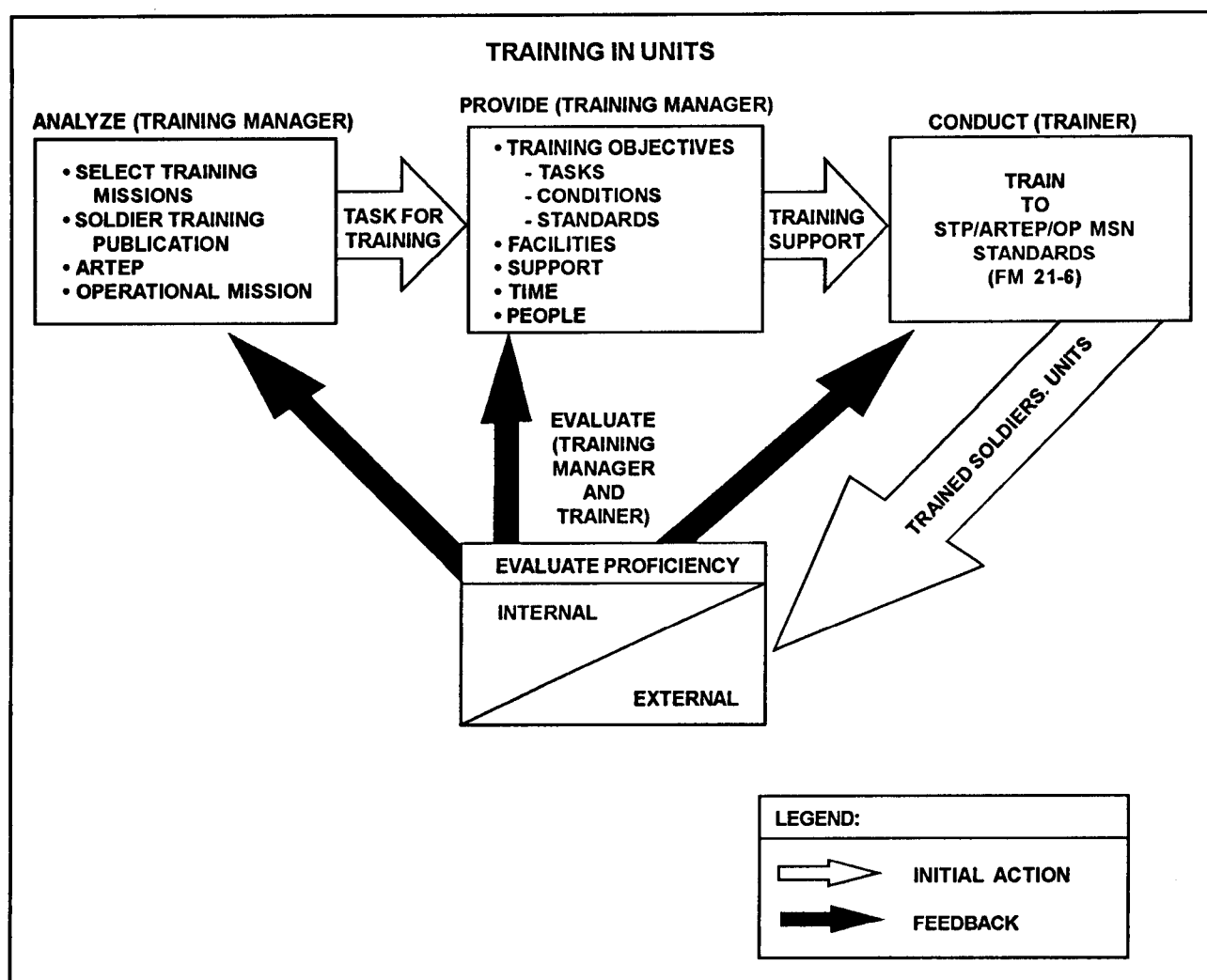


Figure 8-2. Unit training program development

S2/S3 Officer

The S2/S3 Officer is the training manager for the group or battalion. He sets up the training program and sees that it is carried out. The S2/S3 section in Chapters 3 through 7 gives more details. The S2/S3 Officer —

- Coordinates with other staff officers and unit commanders to identify the training needs in their areas.
- Coordinates training support requirements.

Company or Detachment Commander

The commander of the company or detachment (company or detachment headquarters) is the training manager for the unit. He —

- Makes sure the training program for the unit is tailored to fit its mission and resources. Makes sure his program does not conflict with that of the higher headquarters.

- Ensures all training complements the METL and the METL of the higher headquarters. The METL tasks will be used by the higher headquarters to develop their battle tasks.

- Makes sure that the unit attains status ratings.
- Makes training needs known to the group or battalion S2/S3 officer.
- Gives instructions to trainers in the unit.
- Ensures that training is conducted which focuses on “war-fighting” skills. Training must be realistic, with attainable goals. All training must support the unit’s approved METL.
- Ensures that after-action reviews are conducted to maximize the value of the training program.

Trainers

Usually, trainers are first-line supervisors. They may be section leaders or team chiefs. Their duties are to —

- Provide on-the-job training for personnel.
- Evaluate the performance of MOS tasks.
- Evaluate the skills of platoons or sections in completing tasks as stated in the MTP manual.
- Bring training needs of personnel or sections to the attention of the company or detachment commander.

USEFUL MATERIALS

There are several types of training materials that can be used. FM 21-75 is a good source of information on training. Other useful training materials are described below.

Soldier Training Publication

A soldier training publication covers one or more skill levels of an MOS. It tells the soldier what tasks he is expected to do in his MOS and how well he must be able to do them. It is used as the basis for individual training and evaluation. However, it may also be used by the trainer to prepare and schedule the individual portion of the training program.

ARTEP

The ARTEP gives the tasks a unit must perform in combat—in the daytime, at night, during bad weather, or during an NBC attack. It is used to evaluate unit readiness. It may be used by the training manager to plan collective training.

Correspondence Courses and Subcourses

The Army Correspondence Course Program offers self-paced lessons in workbook form. Each course contains subcourses that are the basic instructional units. Some courses address specific tasks, conditions, and standards in the soldier training publication. Many courses help soldiers prepare for ARTEP exercises.

Training Extension Courses

These courses help train the soldier to do the tasks given in the soldier training publication. A variety of media, such as audio, audiovisual, audio workbook, programmed texts, and illustrated job aids, are used in these courses.

Exportable Training Packages

These are training materials developed and packaged by service schools for export to units in the field. They may contain programmed texts, workbooks, cassette recordings, “slides, filmstrips, charts, models, or display materials.

EXERCISES

Only by constant training will leaders at all levels learn what is expected of them. Field exercises are the best tactical training. The battalion or group will have regular field exercises. However, there are other ways to provide learning opportunities to the personnel.

Command Post Exercise

Headquarters personnel practice doing the tasks given in the MTP. This practice may point out errors in procedures. It may show a need for training in communications. It may show that personnel need to learn the field SOP, or it may show that the SOP needs changes.

Reconnaissance Party Rehearsal

Personnel gain experience in selecting routes and sites. They rehearse using decontamination equipment. They also rehearse other tasks related to reconnaissance.

Terrain Exercise

Officers, NCOs, section chiefs, and assistants meet and discuss the deployment of units. They discuss the best place to locate the units on various types of terrain and in various climates.

Competition Drill

Drills are set up for soldiers to compete against one another. They set up tents, camouflage equipment, or other tasks. This is especially good when field training areas are not available.

Situational Training Exercises

One section or platoon in the unit uses a scenario based on tasks from the MTP. It concentrates on specific areas of weakness. This exercise is especially valuable for soldiers who have no experience in a full-scale exercise.

APPENDIX

CONVERSION CHARTS

To Convert	To	Multiply by
AREA		
Acres	Square Feet	43,560
	Square Yards	4,840
	Square Miles	0.0015625
	Square Meter	4,046.873
	Hectares	0.4046873
Hectares	Square Yards	11,959.85
	Acres	2.47104
	Square Miles	0.003861
	Square Meters	10,000
	Square Kilometers	0.01
	Square Feet	107,600
Square Centimeters	Square Feet	0.001076
	Square Inches	0.1550
	Square Meters	0.0001
	Square Miles	3.861×10^{-11}
	Square Millimeters	10
	Square Yards	0.000196
Square Feet	Acres	0.0000296
	Square Centimeters	929
	Square Meters	0.09290
	Square Inches	144
	Square Yards	0.11111
	Square Miles	3.587×10^{-8}
	Square Millimeters	9.29×10^4
Square Inches	Square Centimeters	6.452
	Square Feet	0.6944
	Square Millimeters	645.2
	Square Yards	0.000716

To Convert	To	Multiply by
Square Kilometers	Acres	247.1
	Square Centimeters	10^{10}
	Square Feet	10.76×10^6
	Square Inches	1.550×10^9
	Square Meters	10^6
	Square Miles	0.3861
	Square Yards	1.196×10^6
Square Meters	Acres	0.0002471
	Square Centimeters	10,000
	Square Feet	10.76
	Square Inches	1,550
	Square Miles	3.861×10^{-7}
	Square Millimeters	10^6
	Square Yards	1.196
Square Miles	Acres	640
	Square Feet	27.88×10^6
	Square Kilometers	2.590
	Square Meters	2.590×10^6
	Square Yards	3.098×10^6
Square Yards	Acres	0.0002066
	Square Centimeters	8,361
	Square Feet	9
	Square Inches	1,296
	Square Meters	0.8361
	Square Miles	3.228×10^{-7}
	Square Millimeters	8.361×10^5
FLOW		
Barrels per Day	Gallons per hour	1.75
	Gallons per minute	0.0292
Barrels per Hour	Cubic Feet per Minute	0.0936
	Gallons per Minute	0.7

To Convert	To	Multiply by
Gallons per Hour	Cubic Feet per Hour	0.1337
	Cubic Feet per Minute	0.002228
	Gallons per Minute	0.016667
Gallons per Minute	Barrels per Day	34.2857
	Barrels per Hour	1.4286
	Barrels per Minute	0.02381
	Cubic Feet per Day	192.50
	Cubic Feet per Minute	0.1337
	Gallons per Day	1,440
	Liters per Second	0.6308
	Cubic Feet per Second	0.002228
Cubic Feet per Minute	Gallons per Second	0.1247
	Liters per Second	0.4720
	Cubic Centimeters per Second	472
Cubic Feet per Second	Million Gallons per Day	0.646317
	Gallons per Minute	448.831
Cubic Yards per Minute	Cubic Feet per Second	0.45
	Gallons per Second	3.367
	Liters per Second	12.74
Liters per Minute	Cubic Feet per Second	0.0005886
	Gallons per Second	0.004403
FORCE		
Pounds per Square Inch	Kilograms per Square Inch	703.06687
	Inch of Mercury	2.036009
	Feet of Water	2.306009
	Atmospheres	0.0680457
	Kilograms per Square Centimeter	0.7036
KGs per Square Meter	Pounds per Square Inch	0.00142234
	Pounds per Square Foot	0.2048169

To Convert	To	Multiply by
	Inch of Mercury	0.0028959
	Feet of Water	0.003280833
LENGTH		
Centimeters	Feet	0.03281
	Inches	0.3937
	Kilometers	1×10^{-5}
	Meters	0.01
	Miles	6.214×10^{-6}
	Millimeters	10
	Mils	393.7
	Yards	0.01094
	Microns	10,000
F e e t	Centimeters	30.48
	Kilometers	0.0003048
	Meters	0.3048
	Miles (Nautical)	0.0001645
	Miles (Statute).....	0.0001894
	Millimeters	304.8
	Mils	12,000
	Microns	30,480
Kilometers	Centimeters	1×10^5
	Feet.....	3,281
	Inches	39,370
	Meters	1,000
	Miles	0.6214
	Millimeters	10^6
	Yards	1,094
League	Miles	3
Meters	Centimeters	100
	Feet.....	3.281
	Inches	39.37

To Convert	To	Multiply by
	Kilometers	0.001
	Miles (Nautical).....	0.0005396
	Miles (Statute).....	0.0006214
	Millimeters	1,000
	Yards	1.094
	Microns	1 x 10 ⁶
Miles (Nautical)	Feet.....	6,080.27
	Kilometers	1.853
	Meters	1,853
	Miles (Statute).....	1.1516
	Yards	2,027
Miles (Statute)	Centimeters	1.609 x 10 ⁵
	Feet.....	5,280
	Inches	63,360
	Kilometers	1.609
	Meters	1,609
	Miles (Nautical).....	0.8684
	Yards	1,760
Millimeters	Centimeters	0.1
	Feet.....	0.003281
	Inches	0.03937
	Kilometers	10 ⁻⁶
	Meters	0.001
	Miles	6.214 x 10 ⁻⁷
	Mils	39.37
	Yards	0.001094
	Microns.....	1,000
Microns	Centimeters	1 x 10 ⁻⁴
	Inches	3.937 x 10 ⁻⁵
	Meters	1 x 10 ⁻⁶
Yards (US)	Centimeters	91.4402
	Fathoms	0.03

To Convert	To	Multiply by
	Feet	3
	Inches	36
	Meters	0.9144
	Miles	5.68182×10^{-4}
VOLUME		
Barrels (US)	US Gallons	42
	Cubic Inches	9,702
	Cubic Feet	5.6146
	Imperial Gallons	34.9726
	Liters	158.984
	Cubic Meters	0.15899
Cubic Centimeters	Cubic Feet	3.531×10^{-5}
	Cubic Inches	0.06102
	Cubic Meters	10^{-6}
	Cubic Yards	$1,308 \times 10^{-6}$
	Gallons (US Liquid)	0.0002642
	Liters	0.001
	Pints (US Liquid)	0.002113
	Quarts (US Liquid)	0.001057
Cubic Feet	Cubic Centimeters	28,320
	Cubic Inches	1,728
	Cubic Meters	0.02832
	Cubic Yards	0.03704
	Gallons (US Liquid)	7.48052
	Liters	28.32
	Pints (US Liquid)	59.84
	Quarts (US Liquid)	29.92
Cubic Inches	Cubic Centimeters	16.39
	Cubic Feet	5.787×10^{-4}
	Cubic Meters	0.02832
	Cubic Yards	2.143×10^{-5}
	Cubic Gallons	0.004329

To Convert	To	Multiply by
	Liters	0.01639
	Mil Feet	1.061×10^5
	Pints (US Liquid)	0.03463
	Quarts (US Liquid).....	0.01732
Cubic Meters	Bushels (dry)	28.38
	Cubic Centimeters	1×10^6
	Cubic Feet	35.31
	Cubic Inches	61.023
	Cubic Yards	1.308
	Gallons (US Liquid)	264.2
	Liters	1,000
	Pints (US Liquid)	2,113
	Quarts (US Liquid).....	1,057
Cubic Yards	Cubic Centimeters	7.646×10^5
	Cubic Feet	27
	Cubic Inches	46,656
	Cubic Meters	0.7646
	Cubic Gallons	202
	Liters	764.6
	Pints (US Liquid)	1,615.9
Gallons (Imperial)	Quarts (US Liquid).....	807.9
	Cubic Inches	277.42
	Cubic Feet	0.160544
	US Gallons.....	1.20094
	US Barrels.....	0.028594
	Liters	4.54596
	Cubic Meters.....	0.004546
Gallons (US)	Cubic Centimeters	3,785
	Cubic Feet	0.1337
	Cubic Inches	231
	Cubic Meters	0.003785
	Cubic Yards	0.004951
	Liters	3.785

To Convert	To	Multiply by
	Pints	8
	Quarts	4
Gills	Liters	0.1183
	Pints (Liquid)	0.25
Liters	Bushels (US Dry)	0.02838
	Cubic Centimeters	1,000
	Cubic Feet	0.03531
	Cubic Inches	61.02
	Cubic Meters	0.001
	Cubic Yards	0.001308
	Gallons (US Liquid)	0.2642
	Pints (US Liquid)	2.113
	Quarts (US Liquid)	1.057
	WEIGHT	
Pounds	Grams	453.59
	Kilograms	45359
	Ounces (Avoirdupois)	16
	Ounces (Troy)	14.5833
	Long Tons	4.4643×10^{-4}
	Short Tons	5×10^{-4}
Short Tons	Kilograms	907.185
	Long Tons	0.892857
	Metric Tons	0.907185
	Pounds	2,000
Kilograms	Pounds	2.20462
	Short Tons	0.0011023
	Metric Tons	0.001
	Long Tons	9.842×10^{-4}
Long Tons	Kilograms	1,016.05
	Metric Tons	1.01605
	Pounds	2,240
	Short Tons	1.12

To Convert	To	Multiply by
Metric Tons	Kilograms	1,000
	Long Tons	0.98421
	Pounds	2,204.6
	Short Tons	1.10231

GLOSSARY

AAR after action review	det detachment
ACR armored cavalry regiment	DFR Defense Fuel Region
ADC area damage control	DFSC defense fuel supply center
AMDF Army Master Data File	DISCOM division support command
ANCD automated net control devices	distr distribution
API American Petroleum Institute	DLOGS division logistics system
AR Army Regulation	DMMC division support command materiel management center
ARTEP Army training and evaluation program	DDN defense data network
ASCC Army Service Component Commander	DMS defense message system
ASG Area Support Group	DNVT digital nonsecure voice terminal
ASP ammunition supply point	DSVT digital secure voice terminal
ASTM American Society for Testing and Material	DOD Department of Defense
bde brigade	DS direct support
bn battalion	EAC Echelon above Corps
btu beach termination unit	ECAS Environmental Compliance Assessment System
C Celsius	EPMS enlisted personnel management system
CEOI communications electronics operation instruction	EPW enemy prisoner of war
cmd command	F Fahrenheit
CMMC Corps Support Command Materiel Management	fac facilities
co company	FAWPSS Forward Area Water Point Supply System
COB command operating budget	FE front end
comm communications	fld field
COMMZ communications zone	FM field manual; frequency modulated
COMSEC communications security	FORSCOM Forces Command
CONUS continental United States	FPF final protective fire
COSCOM corps support command	FSB forward support battalion
CS combat support	FSSP fuel system supply point
CSG corps support group	FTMS federal test methods standard
CTA common table of allowances	FWD forward
DA Department of the Army	gp group

gpd gallons per day	NCOIC noncommissioned officer in charge
gph gallons per hour	NCS net control station
gpm gallons per minute	NEPA National Environmental Policy Act
GRC ground radio communications	NVIS near vertical incidence skywave
GRREG graves registration	op operations/operating
GS general support	OPDS offshore petroleum discharge system
HAZCOM hazardous communications	OPLAN operations plan
HAZMIN hazardous waste minimization	OPORD operations
HF high frequency	PBO property book officer
HHC headquarters and headquarters company	PDC personnel data card
HHD headquarters and headquarters detachment	petri petroleum
HQ headquarters	petrl op petroleum operations
HW hazardous waste	pl pipeline
IAW in accordance with	PLL prescribed load list
IPB intelligence preparation of the battlefield	plt platoon
IPDS inland petroleum distribution system	po pipeline operating
JPO Joint Petroleum Office	POC point of contact
JCS Joint Chiefs of Staff	pol petroleum, oils and lubricants
LOTS logistics over the shore	PPM parts per million
MARKS Modern Army Recordkeeping System	press pressure
MCC movement control center	PS power source
MCI meal, combat, individual	PSNCO personnel services non-commissioned officer
mdm medium	purif purification
METL Mission Essential Task List	qual quality
MIL-HDBK military handbook	qrf quick reaction force
MMC Materiel Management Center	RAOC rear area operational commander
MOPP mission-oriented protection posture	RAU radio access unit
MOS military occupational specialty	RAP rear area protection
MSB main supply battalion	RAS rear area security
MSE mobile subscriber equipment	RBES revised battlefield electronics CEOI system
msn mission	ROWPU reverse osmosis water purification unit
MSR main supply route	rqmts requirements
MTP mission training plan	S&S supply and service
NBC nuclear, biological, chemical	
NCO noncommissioned officer	

S1 Adjutant (US Army)	TPT tactical petroleum terminal
S2/S3 Operations, Training, and Intelligence Officer (uS Army)	trans transportation
S4 supply Officer (US Army)	TWDS tactical water distribution systems
SB supply bulletin	UCMJ Uniform Code of Military Justice
sec section	ULLS-S4 unit level logistics system, S-4 module
SEN small extension node	UMR unit manning report
sep separate	UMT unit ministry team
SIDPERS Standard Installation / Division Personnel System	US United States
SINCGARS single channel ground airborne radio system	USA United States Army
SM soldiers manual	USAF United States Air Force
SMFT semi-trailer mounted fabric tank	USMC United States Marine Corps
SOI signal operation instructions	USN United States Navy
SOP standing operating procedure	VRC vehicle radio communications
Spt support	
STP soldier training publication	
sub subordinate	
suet suction	
sup supply	
surv surveillance	
svc service	
TA theater army	
TAACOM Theater Army Area Command	
TAMCA Theater Army Movement Control Agency	
TAMMC Theater Army Materiel Management Center	
TAMMS The Army Maintenance Management System	
TC training circular	
tk truck	
TM technical manual	
tml terminal	
tng training	
TOE table of organization and equipment	

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